NetApp® Manageability SDK 9.8

Reference Manual for ONTAP® 9.13.1 APIs

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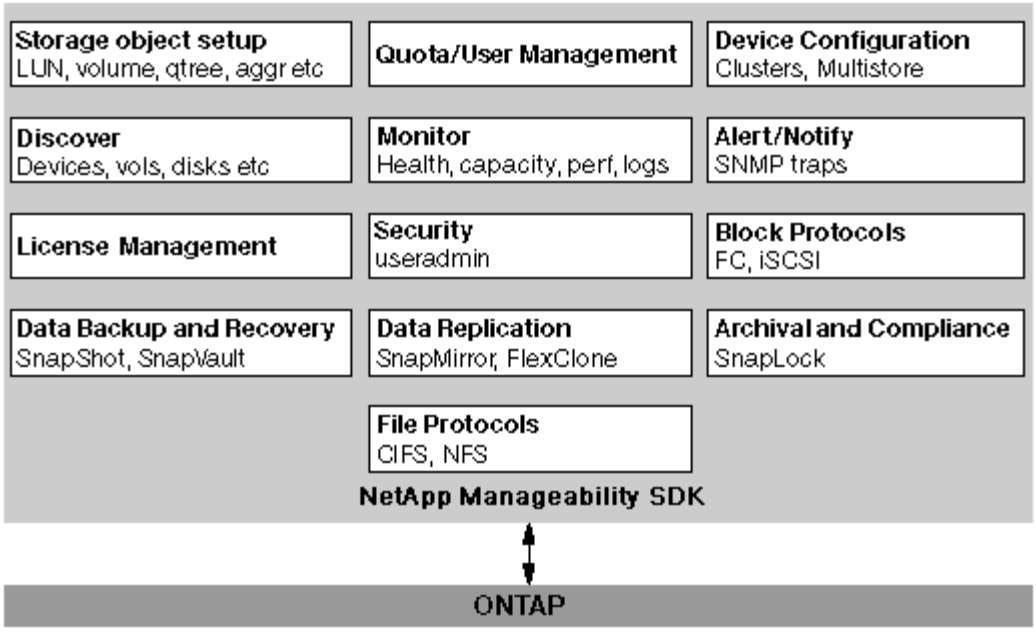
Introduction to ONTAP APIs

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



What is new

This section provides the list of new APIs and APIs with new parameters for ONTAP 9.13.1.

New APIs

There is no change in the APIs and API categories.

Changed parameters

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

- **Vserver APIs**

Parameters of following Vserver API categories have been modified in ONTAP 9.13.1 compared with ONTAP 9.12.1. Click on the categories to see the changed parameters.

flexcache

flexcache

[top]

API	Input Parameters	Output Parameters
flexcache-create-async	writeback-scrub-watermark	

Version Matrix

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

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

Data ONTAP Support	ONTAPI
9.12.1	9.12.1
9.11.1	9.11.1
9.10.1	9.10.1
9.9.1	9.9.1
9.8	9.8
9.7	9.7
9.6	9.6
9.5	9.5
9.4	9.4
9.3	1.130
9.2	1.120
9.1	1.110
9.0	1.100

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

Introduction to ONTAP

Iterative APIs

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

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

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

Following are the input elements of an iterative API:

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

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

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

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

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

Following are the output elements of an iterative API:

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

ONTAP 7G-like API

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

You can find the list here.

ONTAP White-list API

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

You can find the list here.

SVM tunneling

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

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

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

Network and File Access Management concepts

- **Logical interface**

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

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

  - **Node-management**

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

  - **Cluster-management**

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

  - **Cluster**

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

  - **Data**

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

- **SVM**

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

  - **Admin SVM**

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

  - **Node SVM**

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

  - **Data SVM**

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

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

Related Topics

- ONTAP System Administration Guide

API Version 1.31

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

36	**diagnosis-alert-definition-get**
37	**diagnosis-alert-definition-get-iter**
38	**diagnosis-alert-get**
39	**diagnosis-alert-get-iter**
40	**diagnosis-alert-modify**
41	**diagnosis-config-get**
42	**diagnosis-config-get-iter**
43	**diagnosis-delete-alert**
44	**diagnosis-policy-definition-get**
45	**diagnosis-policy-definition-get-iter**
46	**diagnosis-policy-modify**
47	**diagnosis-status-get**
48	**diagnosis-subsystem-config-get**
49	**diagnosis-subsystem-config-get-iter**
50	**disk-fail**
51	**disk-remove**
52	**disk-sanown-assign**
53	**disk-sanown-filer-list-info**
54	**disk-sanown-list-info**
55	**disk-sanown-reassign**
56	**disk-sanown-remove-ownership**
57	**disk-unfail**
58	**disk-update-disk-fw**
59	**disk-zero-spares**
60	**ems-autosupport-log**
61	**fc-config-adapter-disable**
62	**fc-config-adapter-enable**
63	**fc-config-set-adapter-fc-type**
64	**fcp-adapter-config-down**
65	**fcp-adapter-config-up**
66	**fcp-adapter-set-speed**
67	**fcp-node-get-name**
68	**fcp-node-set-name**
69	**fcp-port-name-set**
70	**fcp-service-start**
71	**fcp-service-status**
72	**fcp-service-stop**

73	**fcp-wwpnalias-remove**
74	**fcp-wwpnalias-set**
75	**fcport-get-link-state**
76	**feature-status-list-info**
77	**file-create-directory**
78	**file-create-symlink**
79	**file-delete-directory**
80	**file-delete-file**
81	**file-get-file-info**
82	**file-get-space-reservation-info**
83	**file-read-file**
84	**file-read-symlink**
85	**file-set-space-reservation-info**
86	**file-truncate-file**
87	**file-usage-get**
88	**file-usage-result-get**
89	**file-usage-start**
90	**file-write-file**
91	**flash-device-list-info**
92	**flash-get-thresholds**
93	**fpolicy-disable-policy**
94	**fpolicy-enable-policy**
95	**igroup-add**
96	**igroup-bind-portset**
97	**igroup-create**
98	**igroup-destroy**
99	**igroup-lookup-lun**
100	**igroup-remove**
101	**igroup-rename**
102	**igroup-set-attribute**
103	**igroup-unbind-portset**
104	**iscsi-auth-generate-chap-password**
105	**iscsi-initiator-add-auth**
106	**iscsi-initiator-delete-auth**
107	**iscsi-initiator-get-auth**
108	**iscsi-initiator-get-default-auth**
109	**iscsi-initiator-modify-chap-params**

110	**iscsi-initiator-set-default-auth**
111	**iscsi-interface-disable**
112	**iscsi-interface-enable**
113	**iscsi-isns-config**
114	**iscsi-isns-get-info**
115	**iscsi-isns-start**
116	**iscsi-isns-stop**
117	**iscsi-isns-update**
118	**iscsi-node-get-name**
119	**iscsi-node-set-name**
120	**iscsi-service-start**
121	**iscsi-service-status**
122	**iscsi-service-stop**
123	**iscsi-target-alias-clear-alias**
124	**iscsi-target-alias-get-alias**
125	**iscsi-target-alias-set-alias**
126	**iscsi-tpgroup-create**
127	**iscsi-tpgroup-destroy**
128	**iscsi-tpgroup-interface-add**
129	**iscsi-tpgroup-interface-delete**
130	**license-v2-add**
131	**license-v2-delete**
132	**license-v2-list-info**
133	**lun-clear-persistent-reservation-info**
134	**lun-create-by-size**
135	**lun-create-from-file**
136	**lun-destroy**
137	**lun-get-attribute**
138	**lun-get-comment**
139	**lun-get-geometry**
140	**lun-get-inquiry-info**
141	**lun-get-maxsize**
142	**lun-get-minsize**
143	**lun-get-occupied-size**
144	**lun-get-persistent-reservation-info**
145	**lun-get-select-attribute**
146	**lun-get-serial-number**

147	**lun-get-space-reservation-info**
148	**lun-get-vdisk-attributes**
149	**lun-has-scsi-reservations**
150	**lun-initiator-list-map-info**
151	**lun-initiator-logged-in**
152	**lun-map**
153	**lun-map-list-info**
154	**lun-move**
155	**lun-offline**
156	**lun-online**
157	**lun-port-has-scsi-reservations**
158	**lun-resize**
159	**lun-set-attribute**
160	**lun-set-comment**
161	**lun-set-device-id**
162	**lun-set-select-attribute**
163	**lun-set-serial-number**
164	**lun-set-space-reservation-info**
165	**lun-unmap**
166	**lun-unset-attribute**
167	**lun-unset-device-id**
168	**net-vlan-create**
169	**net-vlan-delete**
170	**nfs-disable**
171	**nfs-enable**
172	**nfs-exportfs-append-rules**
173	**nfs-exportfs-append-rules-2**
174	**nfs-exportfs-check-permission**
175	**nfs-exportfs-delete-rules**
176	**nfs-exportfs-list-rules**
177	**nfs-exportfs-list-rules-2**
178	**nfs-exportfs-modify-rule**
179	**nfs-exportfs-modify-rule-2**
180	**nfs-get-supported-sec-flavors**
181	**nfs-status**
182	**options-get**
183	**options-list-info**

184	**options-set**
185	**perf-object-counter-list-info**
186	**perf-object-get-instances**
187	**perf-object-list-info**
188	**portset-add**
189	**portset-create**
190	**portset-destroy**
191	**portset-remove**
192	**qtree-create**
193	**qtree-delete**
194	**qtree-rename**
195	**quota-add-entry**
196	**quota-delete-entry**
197	**quota-get-entry**
198	**quota-modify-entry**
199	**quota-off**
200	**quota-on**
201	**quota-resize**
202	**quota-set-entry**
203	**quota-status**
204	**sis-disable**
205	**sis-enable**
206	**sis-set-config**
207	**sis-start**
208	**sis-status**
209	**sis-stop**
210	**snapmirror-abort**
211	**snapmirror-break**
212	**snapmirror-get-volume-status**
213	**snapmirror-initialize**
214	**snapmirror-quiesce**
215	**snapmirror-release**
216	**snapmirror-resume**
217	**snapmirror-resync**
218	**snapmirror-update**
219	**snapshot-autodelete-list-info**
220	**snapshot-autodelete-set-option**

221	**snapshot-create**
222	**snapshot-delete**
223	**snapshot-delta-info**
224	**snapshot-get-reserve**
225	**snapshot-get-schedule**
226	**snapshot-list-info**
227	**snapshot-multicreate**
228	**snapshot-multicreate-validate**
229	**snapshot-multidelete**
230	**snapshot-partial-restore-file**
231	**snapshot-partial-restore-file-list-info**
232	**snapshot-reclaimable-info**
233	**snapshot-rename**
234	**snapshot-reserve-list-info**
235	**snapshot-restore-file**
236	**snapshot-restore-file-info**
237	**snapshot-restore-volume**
238	**snapshot-set-reserve**
239	**snapshot-volume-info**
240	**snmp-community-add**
241	**snmp-community-delete**
242	**snmp-community-delete-all**
243	**snmp-disable**
244	**snmp-enable**
245	**snmp-get**
246	**snmp-get-next**
247	**snmp-status**
248	**snmp-trap-disable**
249	**snmp-trap-enable**
250	**snmp-traphost-add**
251	**snmp-traphost-delete**
252	**storage-adapter-enable-adapter**
253	**storage-adapter-get-adapter-info**
254	**storage-adapter-get-adapter-list**
255	**storage-array-get-config-summary**
256	**storage-array-list-info**
257	**storage-array-ports-list-info**

258	**storage-disk-get-iter**
259	**storage-initiator-balance**
260	**storage-initiator-disk-path-list-info**
261	**storage-initiator-errors-list-info**
262	**storage-initiator-get-load**
263	**storage-initiator-path-list-info**
264	**storage-initiator-path-quiesce**
265	**storage-initiator-path-resume**
266	**storage-shelf-bay-list-info**
267	**storage-shelf-environment-list-info**
268	**storage-shelf-get-shelf-info**
269	**storage-shelf-list-info**
270	**system-api-get-elements**
271	**system-api-list**
272	**system-api-list-types**
273	**system-get-ontapi-version**
274	**system-get-vendor-info**
275	**system-get-version**
276	**vmservices-vsphere-credential-check**
277	**vmservices-vsphere-credential-get**
278	**vmservices-vsphere-credential-modify**
279	**volume-autosize-get**
280	**volume-autosize-set**
281	**volume-clone-create**
282	**volume-clone-split-estimate**
283	**volume-clone-split-start**
284	**volume-clone-split-status**
285	**volume-clone-split-stop**
286	**volume-container**
287	**volume-create**
288	**volume-destroy**
289	**volume-get-language**
290	**volume-get-root-name**
291	**volume-move-start**
292	**volume-offline**
293	**volume-online**
294	**volume-options-list-info**

295	**volume-rename**
296	**volume-restrict**
297	**volume-set-option**
298	**volume-set-total-files**
299	**volume-size**
300	**wafl-sync**

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

ONTAPI Categories

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

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

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

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

APIs in Category: **active-directory**

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

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

active-directory-account-create

[top]

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
ECIFS_CIFS_SERVER_ALREADY_EXISTS	

active-directory-account-delete

[top]

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

active-directory-account-get-iter

[top]

Retrieve the list of active directory accounts

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

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

Errno	Description
EINTERNALERROR	

active-directory-account-modify

[top]

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

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

active-directory-account-password-change

[top]

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

active-directory-account-password-reset

[top]

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

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

[top]

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

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

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

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

Element definition: **netbios-name**

[top]

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

[none]

Element definition: **domain-name**

[top]

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

[none]

APIs in Category: **aggr**

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

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

Aggregates are identified in one of two ways:

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

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

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

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

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

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

Examples include:

my_aggr

9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr

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

/vol/my_aggr/plex0

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

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

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

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

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

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

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

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

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

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

aggr-64bit-upgrade-scan-start

[top]

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

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

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUME_CANT_OBTAIN_VOLREF	
EVOLUMEREADONLY	
EOP_DISALLOWED_ON_TRAD	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS	
EOP_64BIT_UPGRADE_SCANNER_DISABLED	

aggr-64bit-upgrade-scan-stop

[top]

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

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

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUME_CANT_OBTAIN_VOLREF	
EVOLUMEREADONLY	
EOP_DISALLOWED_ON_TRAD	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS	

aggr-64bit-upgrade-start

[top]

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

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

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

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

aggr-add

[top]

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

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

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

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

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

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

Errno	Description

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

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

aggr-autobalance-aggregate-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

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

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

Errno	Description
EINTERNALERROR	

aggr-autobalance-config-get

[top]

Displays the configuration for Auto Balance Aggregate.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-autobalance-config-modify

[top]

Modifies Auto Balance Aggregate configuration.

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

volume-activity-threshold		integer optional	The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second.
volume-inactive-delay-threshold		time-interval optional	This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-autobalance-notification-get-iter

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-autobalance-volume-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

Input Name	Range	Type	Description
		aggr-	

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

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

Errno	Description
EINTERNALERROR	

aggr-check-spare-low

[top]

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

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

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

aggr-create

[top]

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

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

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

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

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

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

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

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

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

ENOT_POOL0_DISKS	
EWRONG_POOL_SO_AGGR	
ENOT_SUPPORTED_PARAM_SIZE	

aggr-destroy

[top]

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

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

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEOFFLINE	
EVOLUME_HAS_VFILER_STORAGE	
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	

aggr-efficiency-cumulated-get

[top]

Display the cumulated efficiency ratio for the specified aggregates

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

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

Errno	Description
ESENOTFOUNDNODE	
ESENOTFOUNDCLUSTER	

aggr-efficiency-get-iter

[top]

Display the all Flash optimized aggregates and their storage efficiency.

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

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

Errno	Description
EINTERNALERROR	

aggr-get-filer-info

[top]

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

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

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

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

Errno	Description
EINTERNALERROR	

aggr-get-iter

[top]

Iterate over a list of aggregate objects.

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

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

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

Errno	Description
EINTERNALERROR	

aggr-get-root-name

[top]

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

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

Vfiler-enabled
Yes

aggr-list-info

[top]

Get aggregate status.

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

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

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	

Vfiler-enabled
Yes

aggr-mediascrub-list-info

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-mirror

[top]

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

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

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

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

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENAMEINVALID	
EVOLUMEDISKSIZEINVALID	

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

aggr-modify-raid-type

[top]

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

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

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

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

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EMIXED_RAIDTYPE_AGGR_NOT_HYBRID	
EMIN_DISK_FOR_UPGRADE_TO_RAIDTP	
EGROUPTYPE_ALREADY_RAIDTP	
EGROUPTYPE_ALREADY_RAIDDP	
EGROUPTYPE_ALREADY_RAID4	
EMIXED_TREE_MISSING_DISKTYPE	
EGROUP_NOT_FOUND_DISKTYPE	

aggr-object-store-attach

[top]

Attach an object store to an aggregate

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

Errno	Description

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

aggr-object-store-config-create

[top]

Create an object store configuration.

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

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

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

codes		optional	
confirm-warning-texts		string[] optional	Output list with warning texts which have to be confirmed.

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

aggr-object-store-config-delete

[top]

Delete an object store configuration

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

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	

aggr-object-store-config-get

[top]

Get the attributes of an object store configuration.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-config-get-iter

[top]

Iterate over a list of object store configurations.

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

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

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

Errno	Description
EINTERNALERROR	

aggr-object-store-config-modify

[top]

Modify an existing object store configuration.

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

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

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

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

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

aggr-object-store-config-provider-list

[top]

Returns a list of supported object store providers.

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-get-iter

[top]

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

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

		optional	obtained from the previous call.

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

Errno	Description
EINTERNALERROR	

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

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-object-store-mirror

[top]

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

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

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

aggr-object-store-modify

[top]

Modify object store specific parameters.

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

Errno	Description
EINTERNALERROR	

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

aggr-object-store-profiler-abort

[top]

Abort the object store profiler

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-profiler-get-iter

[top]

Get object store profiler status

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

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

Errno	Description
EINTERNALERROR	

aggr-object-store-profiler-start

[top]

Start the object store profiler to measure latency and throughput

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-unmirror

[top]

Remove the second object store from a mirrored FabricPool

Input Name	Range	Type	Description
aggregate		string	Name of the Aggregate

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

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

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

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-offline

[top]

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

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

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMEBUSY	

aggr-online

[top]

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

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

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ESYNCMIRROR_NO_PLATFORM	
EVOL_ONLINE_LICENSE_CHECK_PENDING	

aggr-options-list-info

[top]

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

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

Output Name	Range	Type	Description

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

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	

aggr-relocation

[top]

Aggregate Relocation

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-relocation-status

[top]

Iterate over the list of aggregate relocation status

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

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

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

Errno	Description
EINTERNALERROR	

aggr-rename

[top]

Rename the specified aggregate.

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

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	

aggr-restrict

[top]

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

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

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

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

aggr-resync-options-get

[top]

Get aggregate resynchronization options for a node in the cluster

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-resync-options-get-iter

[top]

Get aggregate resynchronization options for each node in the cluster

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

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

Errno	Description
EINTERNALERROR	

aggr-resync-options-set

[top]

Modify aggregate resynchronization options for a node in the cluster

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-scrub-list-info

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-scrub-resume

[top]

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

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

Errno	Description
EINTERNALERROR	

aggr-scrub-start

[top]

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

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

Errno	Description
EINTERNALERROR	

aggr-scrub-stop

[top]

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

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

Errno	Description
EINTERNALERROR	

aggr-scrub-suspend

[top]

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

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

Errno	Description
EINTERNALERROR	

aggr-set-option

[top]

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

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

scanner The default value for this option is "off"

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

aggr-space-get-iter

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-space-list-info

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-spare-get-iter

[top]

Iterate over a list of spare disks

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

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

Errno	Description
EINTERNALERROR	

aggr-split

[top]

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

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

Errno	Description

EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEDOESNOTEXIST	

aggr-status-get-iter

[top]

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

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

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

Errno	Description
EINTERNALERROR	

aggr-verify-list-info

[top]

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

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

Output Name	Range	Type	Description
		verify-	

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

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	

aggr-verify-resume

[top]

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

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

Errno	Description
EINTERNALERROR	

aggr-verify-start

[top]

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

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

Errno	Description
EINTERNALERROR	

aggr-verify-stop

[top]

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

Input Name	Range	Type	Description

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

Errno	Description
EINTERNALERROR	

aggr-verify-suspend

[top]

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

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

Errno	Description
EINTERNALERROR	

Element definition: **aggr-attributes**

[top]

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

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

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

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

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

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

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

[top]

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

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

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

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

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

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

[top]

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

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

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

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

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

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

[top]

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

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

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

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

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

[top]

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

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

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

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

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

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

[top]

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

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

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

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

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

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

[top]

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

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

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

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

Element definition: **aggr-info**

[top]

Aggregate status information.

Name	Range	Type	Description
aggr-64bit-upgrade		aggr-64bit-upgrade-info optional	Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available.
aggregate-space-details		aggregate-space-info optional	Contains all size-related information for the aggr and its set of snapshots.
azcs-read-optimization		string optional	Indicates if azcs read optimization is enabled and available on the aggreagte. This feature is supported only on Cloud ONTAP or FSx. Possible values: "on", "off" • "on" : azcs read optimization is enabled and available • "off" : azcs read optimization is disabled. The default value is "on"
azcs-read-optimization-enabled		boolean optional	Is azcs read optimizaion enabled for the aggregate in SDOT ?
block-type		string	The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit
cache-raid-group-size		integer	Current maximum cache RAID group size of hybrid aggregate. Range : [1..28]. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true.
checksum-status		string	Checksum status. Possible values: "active", "off", "reverting", "none", "unknown", "initializing", "reinitializing", "reinitialized", "upgrading_phase1", "upgrading_phase2"
checksum-style		string	Checksum style. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown • "wafl" - wafl, • "zoned" - zoned (this value is no longer supported).
creation-timestamp		integer optional	Timestamp of aggregate creation. Range : [0..2^32-1].
disk-count		integer	Number of disks in the aggregate. Range: [0..2^31-1].
dr-home-dblade-id		string optional	Dblade ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of dr-home-id.
dr-home-id	**[0..2^32-1]**	integer optional	NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info'
dr-home-name		string optional	Name of the DR node to which this aggregate's disks have been administratively assigned.
drive-protection-enabled		boolean	Indicates the aggregate is entirely composed of self-encrypting drives with data protection enabled.
effective-disk-type		string optional	Effective type of disks in aggregate: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, unknown. For hybrid aggregate this represents effective disk type of HDD raidgroups.

encrypt-with-aggr-key		boolean optional	If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption).
files-private-used		integer	Number of system (not user-visible) files used. Range: [0..2^64-1].
files-total		integer	Total count of user-visible files. Range: [0..2^64-1].
files-used		integer	Number of user-visible files used. Range: [0..2^64-1].
free-space-realloc		string optional	Indicate if free space reallocation (continuous segment cleaning) is enabled on a specific aggregate. Possible values: on, off, no_redirect "on" (Free space reallocation enabled with automatically starting the redirect scanner) "off" (Free space reallocation disabled) "no_redirect" (Free space reallocation enabled without running the redirect scanner) The default value for this option is "off"
fsid		integer optional	Aggregate's File System IDentifier. Range: [0..2^32-1]
ha-policy		ha-policy-type optional	Aggregate's HA policy. Possible return values: "cfo", "sfo", "none"
has-local-root		boolean	Whether the aggregate contains the local root volume.
has-partner-root		boolean	Whether the aggregate contains the partner's root volume.
home-dblade-id		string optional	Dblade ID of the node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of home-id.
home-id		integer optional	NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1].
home-name		string optional	Name of the node to which this aggregate's disks have been administratively assigned.
hybrid-cache-tier-disk-count		integer optional	Disk count of hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true.
hybrid-cache-tier-raid-type		string optional	Raid type for hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true.
inactive-data-reporting-start-timestamp		integer optional	Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1].
inodefile-private-capacity		integer	Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0..2^64-1].
inodefile-public-capacity		integer	Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0..2^64-1].
inofile-version		integer	The inofile-version of the aggregate. Range: [0..2^32-1].
is-checksum-enabled		boolean	Is checksumming enabled for the aggregate?
is-composite		boolean optional	If true, aggregate currently contains two tiers of storage.
is-fabricpool-mirrored		boolean optional	If true, aggregate currently contains two copies of the capacity tier.
is-hybrid		boolean optional	If true, aggregate currently contains both SSD and non-SSD RAID groups.
is-hybrid-		boolean	If true, aggregate is eligible to contain both SSD and non-SSD RAID

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

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

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

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

[top]

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

caller.

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

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

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

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

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

[top]

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

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

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

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

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

[top]

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

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

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

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

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

[top]

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

Name	Range	Type	Description
name		string	Option key.
value		string	Option value.

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

[top]

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

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

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

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

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

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

[top]

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

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

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

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

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

[top]

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

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

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

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

[top]

List of aggregates and their space usage information.

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

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

[top]

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

caller.

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

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

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

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

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

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

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

[top]

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

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

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

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

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

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

[top]

Aggregate Layout

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

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

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

[top]

Auto Balance Aggregate state Possible values:

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

[none]

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

[top]

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

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

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

Element definition: **disk-info**

[top]

Information for each disk in the plex.

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

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

[top]

List of filters based on attributes of an aggregate.

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

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

[top]

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

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

[none]

[top]

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

Information about media scrubbing.

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

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

[top]

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

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

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

[top]

Simulation Result

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

Element definition: **node-name**

[top]

The node's name

[none]

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

[top]

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

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

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

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

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

[top]

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

- "path_style" ,
- "virtual_hosted_style"

[none]

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

[top]

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

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

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

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

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

[top]

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

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

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

Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

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

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

[top]

Scrubbing information.

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

Element definition: **space-information**

[top]

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

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

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

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

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

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

Element definition: **striping-type**

[top]

Striping information of aggregate. Allowed values are:

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

[none]

Element definition: **time-interval**

[top]

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

[none]

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

[top]

Information about mirror verification.

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

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

Element definition: **warning-code**

[top]

Warning codes for pre-check mode.

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

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

[top]

Information related to 64-bit upgrade.

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

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

[top]

Information related to 64-bit upgrade.

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

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

[top]

Additional details related to storage efficiency in this aggregate.

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

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

[top]

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

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

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

[top]

Additional details related to storage efficiency in the given aggregates.

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

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

[top]

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

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

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

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

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

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

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

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

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

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

[top]

Cumulative storage efficiency information of an aggregate.

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

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

[top]

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

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

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

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

[top]

cumulated storage efficiency information from the given aggregates.

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

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

[top]

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

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

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

[top]

File system specific information about the aggregate.

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

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

[top]

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

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

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

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

[top]

Ownership information about the aggregate.

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

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

[top]

Performance specific attributes of the aggregate

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

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

[top]

Information about the Plex

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

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

[top]

RAID specific information of the aggregate

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

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

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

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

[top]

Snaplock specific information of the aggregate

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

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

[top]

SnapMirror specific information of the aggregate

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

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

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

[top]

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

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

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

[top]

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

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

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

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

[top]

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

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

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

[top]

WAFL volume count specific information of the aggregate

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

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

[top]

WAFL-iron specific information of the aggregate

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

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

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

[top]

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

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

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

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

[top]

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

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

Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

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

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

[none]

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

[top]

Information about a volume contained in the aggregate.

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

Element definition: **datetime**

[top]

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

[none]

Element definition: **disk-name**

[top]

Disk path name

[none]

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

[top]

Disk position type of the aggregate.

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

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

[none]

Element definition: **disktype**

[top]

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

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

[none]

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

[top]

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

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

Element definition: **plex-info**

[top]

Information for a plex.

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

Element definition: **raid-type**

[top]

Raid type of the aggregate.

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

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

[none]

Element definition: **size**

[top]

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

[none]

Element definition: **standarddisktype**

[top]

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

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

[none]

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

[top]

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

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

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

[top]

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

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

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

[top]

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

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

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

[top]

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

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

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

[top]

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

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

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

[top]

Information about the RAID Groups

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

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

[top]

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

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

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

[top]

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

Name	Range	Type	Description
is-64-bit-upgrade-in-progress		boolean optional	True if the 64-bit upgrade is in progress.

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

[top]

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

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

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

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

Element definition: **plex-attributes**

[top]

Information about a plex.

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

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

[top]

Information for a particular RAID group.

Name	Range	Type	Description

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

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

[top]

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

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

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

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

[top]

Information about the disks

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

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

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

[top]

Information about the individual RAID Groups

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

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

Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

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

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

[none]

Element definition: **disk-info**

[top]

Information for each disk in the plex.

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

Element definition: **disk-name**

[top]

Disk path name

[none]

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

[top]

Disk position type of the aggregate.

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

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

[none]

Element definition: **raid-type**

[top]

Raid type of the aggregate.

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

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

[none]

Element definition: **raidgroup-attributes**

[top]

Information about a raidgroup.

Name	Range	Type	Description
			Checksum style for the RAID group. The possible values are: • "none"

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

Element definition: **size**

[top]

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

[none]

Element definition: **standarddisktype**

[top]

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

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

[none]

APIs in Category: **audit**

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

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

audit-log-config-get

[top]

Get the cluster administrative audit settings

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

audit-log-config-modify

[top]

Modify the cluster administrative audit settings

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

audit-log-get

[top]

Get the cluster administrative audit settings

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

audit-log-get-iter

[top]

Iterate of audit log entries

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

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

Element definition: **audit-info**

[top]

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

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

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

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

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

[top]

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

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

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

Name	Range	Type	Description

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

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **autosupport**

autosupport-budget-get
autosupport-budget-get-iter
autosupport-budget-get-total-records
autosupport-budget-modify
autosupport-check-iter
autosupport-compliant-get
autosupport-compliant-get-iter
autosupport-compliant-get-total-records
autosupport-config-get
autosupport-config-get-iter
autosupport-config-get-total-records
autosupport-config-modify
autosupport-destinations-get
autosupport-destinations-get-iter
autosupport-destinations-get-total-records
autosupport-download-get
autosupport-download-get-iter
autosupport-history-cancel
autosupport-history-get
autosupport-history-get-iter
autosupport-history-get-total-records
autosupport-history-retransmit
autosupport-invoke
autosupport-invoke-core-upload
autosupport-invoke-diagnostic
autosupport-invoke-diagnostic-iter
autosupport-invoke-iter
autosupport-invoke-performance-archive
autosupport-invoke-performance-archive-iter

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

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

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

autosupport-budget-get

[top]

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

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

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

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

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

autosupport-budget-get-iter

[top]

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

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

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

Errno	Description
EINTERNALERROR	

autosupport-budget-get-total-records

[top]

Return the total number of records.

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

autosupport-budget-modify

[top]

Modify AutoSupport time and size limits per subsystem.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-check-iter

[top]

Get Current Status of AutoSupport Subsystem for all nodes.

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

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

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

Errno	Description
EINTERNALERROR	

autosupport-compliant-get

[top]

Get AutoSupport compliance hash mapping

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-compliant-get-iter

[top]

Get AutoSupport compliance hash mapping

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

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

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

Errno	Description
EINTERNALERROR	

autosupport-compliant-get-total-records

[top]

Return the total number of records.

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

autosupport-config-get

[top]

Get AutoSupport configuration settings for the given node.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-config-get-iter

[top]

Get AutoSupport configuration settings for all nodes.

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

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

Errno	Description
EINTERNALERROR	

autosupport-config-get-total-records

[top]

Return the total number of records.

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

autosupport-config-modify

[top]

Modify AutoSupport configuration settings for the given node.

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

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

certificate		optional	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-destinations-get

[top]

Get the list of AutoSupport destinations for the given node.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-destinations-get-iter

[top]

Get the list of AutoSupport destinations for all nodes.

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

Output Name	Range	Type	Description
		autosupport-	

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

Errno	Description
EINTERNALERROR	

autosupport-destinations-get-total-records

[top]

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

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

autosupport-download-get

[top]

Get a download record for the given AutoSupport.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-download-get-iter

[top]

Get the download records.

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

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

Errno	Description
EINTERNALERROR	

autosupport-history-cancel

[top]

Cancel an AutoSupport Transmission.

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-history-get

[top]

Get a history record for the given AutoSupport.

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-history-get-iter

[top]

Get the history records for the last 50 AutoSupport messages.

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

Output Name	Range	Type	Description
		autosupport-	

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

Errno	Description
EINTERNALERROR	

autosupport-history-get-total-records

[top]

Return the total number of records.

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

autosupport-history-retransmit

[top]

Selectively retransmit a previously collected AutoSupport message.

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

Errno	Description
E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME	

autosupport-invoke

[top]

Generate a new AutoSupport message

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

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-core-upload

[top]

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

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME	

autosupport-invoke-diagnostic

[top]

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

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

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-diagnostic-iter

[top]

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

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

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

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-iter

[top]

Generate a new AutoSupport message

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

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-performance-archive

[top]

Generate and send an AutoSupport message with performance archives.

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-performance-archive-iter

[top]

Generate and send an AutoSupport message with performance archives.

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

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

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-splog

[top]

Generate a Remote Service Processor Log AutoSupport message

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-manifest-get-iter

[top]

Get a detailed manifest for the contents of an AutoSupport.

Input Name	Range	Type	Description

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

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

Errno	Description
EINTERNALERROR	

autosupport-manifest-get-total-records

[top]

Return the total number of records.

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

autosupport-trigger-get

[top]

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

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

Output Name	Range	Type	Description

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-trigger-get-iter

[top]

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

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

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

Errno	Description
EINTERNALERROR	

autosupport-trigger-get-total-records

[top]

Return the total number of records.

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

autosupport-trigger-modify

[top]

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

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

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

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

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

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

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

[none]

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

[top]

test|performance|all Possible values:

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

[none]

Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

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

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

[none]

Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" - (DEPRECATED),
- "https"

[none]

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

[top]

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

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

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

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

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

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

Element definition: **autosupport-check-info**

[top]

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

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

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

Name	Range	Type	Description
check-category		string optional	Category of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values: • "http_https" - AutoSupport HTTP/HTTPS Destination, • "smtp" - AutoSupport SMTP Destination, • "on_demand" - AutoSupport OnDemand Destination, • "configuration" - AutoSupport Configuration
check-type		string optional	Type of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values: • "rollup_status" - Overall Status for a category, • "http_put_destination" - HTTP/HTTPS PUT Destination, • "http_post_destination" - HTTP/HTTPS POST Destination, • "mail_server" - AutoSupport MailServer, • "ondemand_server" - AutoSupport OnDemand Server, • "configuration" - AutoSupport Configuration
corrective-action		string optional	Action to correct the error seen as the result of this check. Attributes: non-creatable, non-modifiable
error-detail		string optional	Detailed Error String for this AutoSupport Check. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer on which the check is being performed. Attributes: key, non-creatable, non-modifiable
status		asup-check-status optional	Status of this AutoSupport Check. Attributes: non-creatable, non-modifiable Possible values: • "ok" - The Status of the AutoSupport check is ok., • "warning" - Please verify the intended behavior., • "failed" - AutoSupport check failed., • "not_run" - AutoSupport check could not be run.

Element definition: **autosupport-compliant-info**

[top]

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

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

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

Name	Range	Type	Description
hash		string optional	hash Attributes: non-creatable, non-modifiable
last-used-sequence		seqnum optional	Last AutoSupport that used this hash Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

plaintext		string optional	Plaintext Attributes: key, non-creatable, non-modifiable

Element definition: **autosupport-config-info**

[top]

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

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

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

Name	Range	Type	Description
from		mail-address optional	The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable
is-enabled		boolean optional	Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable
is-local-collection-enabled		boolean optional	Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable
is-nht-data-enabled		boolean optional	Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable
is-node-in-subject		boolean optional	Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable
is-ondemand-download-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-enabled		boolean optional	Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-remote-diag-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-perf-data-enabled		boolean optional	Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable
is-private-data-removed		boolean optional	Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable
is-reminder-		boolean	Specifies whether to enable / disable AutoSupport reminders.

enabled		optional	Attributes: non-creatable, modifiable
is-support-enabled		boolean optional	Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable
is-throttle-enabled		boolean optional	Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable
last-subject		string optional	The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable
last-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
mail-hosts		string[] optional	The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable
max-download-rate	**[0..2^63-1]**	integer optional	Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable
max-http-size	**[0..2^63-1]**	integer optional	Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-smtp-size	**[0..2^63-1]**	integer optional	Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-upload-rate	**[0..2^63-1]**	integer optional	Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable
minimum-private-data-length	**[2..1024]**	integer optional	Minimum Length for Sensitive Data Attributes: non-creatable, modifiable
node-name		string optional	The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable
node-specific-from		boolean optional	Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable
noteto		mail-address[] optional	(DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable
ondemand-polling-interval	**[0..2^32-1]**	integer optional	The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable
ondemand-server-url		string optional	The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable
partner-address		mail-address[] optional	Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
payload-format		compression-format	The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values: • "7z" - 7-Zip Archive,

		optional	• "tgz" - Zipped Tarball
periodic-tx-window		string optional	The transmission window (seconds). Attributes: non-creatable, modifiable
post-url		string optional	The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable
proxy-url		string optional	Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable
put-url		string optional	The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable
retry-count	**[0..2^32-1]**	integer optional	The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable
retry-interval		string optional	The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable
support-address		mail-address[] optional	The e-mail address of Support. Attributes: non-creatable, modifiable
to		mail-address[] optional	Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
transport		asup-transport optional	The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values: • "smtp" , • "http" - (DEPRECATED), • "https"
validate-digital-certificate		boolean optional	Validate Digital Certificate Received Attributes: non-creatable, modifiable

Element definition: **autosupport-destinations-info**

[top]

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

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

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

Name	Range	Type	Description
destinations		string[] optional	A comma separated list of destinations used to deliver AutoSupport messages. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer that owns this destination configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **autosupport-download-info**

[top]

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

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

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

Name	Range	Type	Description
download-type		aod-download optional	The type of the download. Attributes: non-creatable, non-modifiable Possible values: • "licensing" - Download licenses for a node or cluster
error		string optional	The error string recorded for this download. This string may be empty. Attributes: non-creatable, non-modifiable
id	**[0..2^64-1]**	integer optional	The download ID. Attributes: key, non-creatable, non-modifiable
last-modification-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last update to this download record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer that performed the download. Attributes: key, non-creatable, non-modifiable
result		string optional	The path to the downloaded results on the filer. Attributes: non-creatable, non-modifiable
status		aod-download-status optional	The status for this download. Attributes: non-creatable, non-modifiable Possible values: • "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server, • "request_failed" - Download request could not be transmitted, • "not_supported" - Download request type is not known by the AutoSupport OnDemand server, • "transferring" - Requested data is being downloaded, • "completed" - Download has completed successfully, • "cancelled" - Download was cancelled, • "failed" - Download failed to complete

Element definition: **autosupport-history-info**

[top]

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

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

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

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

Name	Range	Type	Description
attempt-count	**[0..2^32-1]**	integer optional	The number of attempted deliveries for this AutoSupport message. Attributes: non-creatable, non-modifiable
decompressed-size		size optional	The decompressed size in bytes of the Autosupport message. Attributes: non-creatable, non-modifiable
destination		asup-destination optional	The transport protocol for this AutoSupport message's destination. Attributes: key, non-creatable, non-modifiable Possible values: • "smtp" - Transmitted via SMTP, • "http" - Transmitted via HTTP or HTTPS, • "noteto" - (DEPRECATED) noteto destination, • "retransmit" - Transmitted to a specified URI destination
generation-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the original generation (collection) of this AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
last-modification-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last update to this history record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer where the AutoSupport message was previously generated. Attributes: key, non-creatable, non-modifiable
percent-complete	**[0..100]**	integer optional	The perentage of the AutoSupport message transmitted successfully. Attributes: non-creatable, non-modifiable
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number. Attributes: key, non-creatable, non-modifiable
size		size optional	The compressed size in bytes of the AutoSupport message. Attributes: non-creatable, non-modifiable
status		asup-status optional	The delivery status for this AutoSupport message. Attributes: non-creatable, non-modifiable Possible values: • "initializing" - ASUP request is being processed, • "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information, • "collection_in_progress" - The AutoSupport Collection is in progress, • "queued" - ASUP is queued for delivery, • "transmitting" - ASUP transmission is in progress, • "sent_successful" - ASUP was successfully sent, • "ignore" - ASUP was processed successfully but has no destinations configured, • "re_queued" - ASUP transmission failed and has been re-queued, • "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded, • "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery, • "cancelled" - ASUP transmission cancelled
subject		string optional	The subject field of this AutoSupport message. Attributes: non-creatable, non-modifiable

time-remaining		time-interval optional	The estimate of the amount of time for the AutoSupport Message to be fully transmitted. Attributes: non-creatable, non-modifiable
total-time	**[0..2^64-1]**	integer optional	The total collection time in msec of the Autosupport message. Attributes: non-creatable, non-modifiable
trigger		string optional	The name of the EMS event that triggered this AutoSupport message. Attributes: non-creatable, non-modifiable
upload-rate		byte-rate optional	The approximate rate in bytes per second of the AutoSupport Message upload. Attributes: non-creatable, non-modifiable
uri		string optional	The URI used to deliver this AutoSupport message. Attributes: non-creatable, non-modifiable

Element definition: **autosupport-invoke-diagnostic-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

Name	Range	Type	Description
autosupport-key		autosupport-config-info	The keys for the autosupport object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Element definition: **autosupport-invoke-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

Name	Range	Type	Description
autosupport-key		autosupport-config-info	The keys for the autosupport object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Element definition: **autosupport-invoke-performance-archive-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

Name	Range	Type	Description

autosupport-key		autosupport-config-info	The keys for the autosupport object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Element definition: **autosupport-manifest-info**

[top]

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

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

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

Name	Range	Type	Description
body-file		string optional	The AutoSupport Content Filename for this Data Attributes: non-creatable, non-modifiable
cmd		string optional	Actual Data Being Collected Attributes: non-creatable, non-modifiable
cmd-tgt		autosupport-cmd-tgt optional	Execution Domain for Command Attributes: non-creatable, non-modifiable Possible values: • "bsd" - Command executed by BSD, • "smf_table" - Command selects SMF table, • "file" - Command indicates file to collect, • "dblade" - Collect from dbladecli, • "dblade_file" - Collect a file from dblade. Could be partner file, • "zapi_xml" - Response in XML format, • "custom_fx" - Collect custom function output file
content-type		asup-content-type optional	AutoSupport Content Type for this Data Attributes: non-creatable, non-modifiable Possible values: • "basic" - ASUP will contain minimal set of data for this subsystem, • "troubleshooting" - ASUP will contain detailed collection of data for this subsystem, • "diagnostic" - ASUP will contain diagnostic data for this subsystem
error		string optional	Textual Description of Error Attributes: non-creatable, non-modifiable
node-name		string optional	Node Attributes: key, non-creatable, non-modifiable
orig-size-collected	**[0..2^63-1]**	integer optional	Initial Number of Bytes Collected Attributes: non-creatable, non-modifiable

prio-num	**[0..2^32-1]**	integer optional	Priority Order of Collection Attributes: key, non-creatable, non-modifiable
query		string optional	Table Query for XML Collection Attributes: non-creatable, non-modifiable
seq-num	**[0..2^64-1]**	integer optional	AutoSupport Sequence Number Attributes: key, non-creatable, non-modifiable
size-collected	**[0..2^63-1]**	integer optional	Number of Bytes Collected Attributes: non-creatable, non-modifiable
size-compressed	**[0..2^63-1]**	integer optional	Compressed Size Attributes: non-creatable, non-modifiable
status		asup-manifest-status optional	Status of this Data Item Attributes: non-creatable, non-modifiable Possible values: • "requested" - ASUP request has been added to the queue and is waiting processing by the collector, • "working" - ASUP Collector is actively gathering the needed data, • "file_not_found" - ASUP collection failed, a needed file is missing, • "no_such_table" - ASUP collection was unable to find the requested SMF table, • "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available, • "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available, • "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available, • "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available, • "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits, • "general_error" - ASUP collection failed, additional information if any will be in the Error String field, • "completed" - ASUP collection is complete, ready for delivery, • "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode, • "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation, • "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode, • "content_empty" - ASUP content was collected successfully, but output was empty, • "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field, • "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available, • "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit, • "collection_incomplete" - ASUP content collection incomplete, • "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit, • "collection_truncated_age" - ASUP file truncated due to age and partial data is available
			Subsystem Attributes: non-creatable, non-modifiable Possible values:

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

			"key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
time-collected	**[0..2^64-1]**	integer optional	Collection Time for this Data Item (ms) Attributes: non-creatable, non-modifiable

Element definition: **autosupport-trigger-info**

[top]

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

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

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

Name	Range	Type	Description
additional-content		asup-content-type[] optional	Additional Content Flag Attributes: non-creatable, non-modifiable Possible values: • "basic" - ASUP will contain minimal set of data for this subsystem, • "troubleshooting" - ASUP will contain detailed collection of data for this subsystem, • "diagnostic" - ASUP will contain diagnostic data for this subsystem
			Additional Subsystems Reporting Basic Info Attributes: non-creatable, modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node,

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

			"snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
			Default Subsystems Reporting Basic Info Attributes: non-creatable, non-modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a

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

noteto-enabled		string optional	(DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable
size-limit		size optional	The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest. Attributes: non-creatable, modifiable
time-limit		string optional	The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest. Attributes: non-creatable, modifiable
to-enabled		string optional	Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable
trigger		string optional	EMS Message Attributes: key, non-creatable, non-modifiable
		asup-	Additional Subsystems Reporting Troubleshooting Info Attributes: non-creatable, modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,

troubleshooting-additional		subsystems[] optional	"splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
			Default Subsystems Reporting Troubleshooting Info Attributes: non-creatable, non-modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node,

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

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

Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

Element definition: **mail-address**

[top]

E-mail Address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size**

[top]

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

[none]

Element definition: **aod-download**

[top]

aod_download Possible values:

- "licensing" - Download licenses for a node or cluster

[none]

Element definition: **aod-download-status**

[top]

aod_download_status Possible values:

- "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server,
- "request_failed" - Download request could not be transmitted,
- "not_supported" - Download request type is not known by the AutoSupport OnDemand server,
- "transferring" - Requested data is being downloaded,
- "completed" - Download has completed successfully,
- "cancelled" - Download was cancelled,
- "failed" - Download failed to complete

[none]

Element definition: **asup-check-status**

[top]

ok|warning|failed|not-run Possible values:

- "ok" - The Status of the AutoSupport check is ok.,
- "warning" - Please verify the intended behavior.,
- "failed" - AutoSupport check failed.,
- "not_run" - AutoSupport check could not be run.

[none]

Element definition: **asup-content-type**

[top]

Type of AutoSupport content Possible values:

- "basic" - ASUP will contain minimal set of data for this subsystem,
- "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,
- "diagnostic" - ASUP will contain diagnostic data for this subsystem

[none]

Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

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

[none]

Element definition: **asup-manifest-status**

[top]

AutoSupport manifest collection status Possible values:

- "requested" - ASUP request has been added to the queue and is waiting processing by the collector,
- "working" - ASUP Collector is actively gathering the needed data,
- "file_not_found" - ASUP collection failed, a needed file is missing,
- "no_such_table" - ASUP collection was unable to find the requested SMF table,
- "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available,
- "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available,
- "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available,
- "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available,
- "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits,
- "general_error" - ASUP collection failed, additional information if any will be in the Error String field,
- "completed" - ASUP collection is complete, ready for delivery,
- "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode,
- "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation,
- "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode,
- "content_empty" - ASUP content was collected successfully, but output was empty,
- "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field,
- "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available,
- "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit,
- "collection_incomplete" - ASUP content collection incomplete,
- "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit,
- "collection_truncated_age" - ASUP file truncated due to age and partial data is available

[none]

Element definition: **asup-status**

[top]

AutoSupport general status Possible values:

- "initializing" - ASUP request is being processed,
- "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information,
- "collection_in_progress" - The AutoSupport Collection is in progress,
- "queued" - ASUP is queued for delivery,
- "transmitting" - ASUP transmission is in progress,
- "sent_successful" - ASUP was successfully sent,
- "ignore" - ASUP was processed successfully but has no destinations configured,
- "re_queued" - ASUP transmission failed and has been re-queued,
- "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded,
- "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery,
- "cancelled" - ASUP transmission cancelled

[none]

Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
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- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,

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

[none]

Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" - (DEPRECATED),
- "https"

[none]

Element definition: **autosupport-cmd-tgt**

[top]

Execution domain of AutoSupport content Possible values:

- "bsd" - Command executed by BSD,
- "smf_table" - Command selects SMF table,
- "file" - Command indicates file to collect,
- "dblade" - Collect from dbladecli,
- "dblade_file" - Collect a file from dblade. Could be partner file,
- "zapi_xml" - Response in XML format,
- "custom_fx" - Collect custom function output file

[none]

Element definition: **autosupport-config-info**

[top]

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

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

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

Name	Range	Type	Description
from		mail-address optional	The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable
is-enabled		boolean optional	Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable
is-local-collection-enabled		boolean optional	Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable
is-nht-data-enabled		boolean optional	Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable
is-node-in-subject		boolean optional	Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable
is-ondemand-download-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-enabled		boolean optional	Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-		boolean	Specifies whether the AutoSupport OnDemand Remote

remote-diag-enabled		optional	Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-perf-data-enabled		boolean optional	Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable
is-private-data-removed		boolean optional	Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable
is-reminder-enabled		boolean optional	Specifies whether to enable / disable AutoSupport reminders. Attributes: non-creatable, modifiable
is-support-enabled		boolean optional	Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable
is-throttle-enabled		boolean optional	Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable
last-subject		string optional	The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable
last-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
mail-hosts		string[] optional	The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable
max-download-rate	**[0..2^63-1]**	integer optional	Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable
max-http-size	**[0..2^63-1]**	integer optional	Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-smtp-size	**[0..2^63-1]**	integer optional	Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-upload-rate	**[0..2^63-1]**	integer optional	Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable
minimum-private-data-length	**[2..1024]**	integer optional	Minimum Length for Sensitive Data Attributes: non-creatable, modifiable
node-name		string optional	The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable
node-specific-from		boolean optional	Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable
noteto		mail-address[] optional	(DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable
ondemand-	**[0..2^32-**	integer	The AutoSupport OnDemand Client polling rate in minutes. As of

polling-interval	**1]**	optional	Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable
ondemand-server-url		string optional	The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable
partner-address		mail-address[] optional	Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
payload-format		compression-format optional	The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values: • "7z" - 7-Zip Archive, • "tgz" - Zipped Tarball
periodic-tx-window		string optional	The transmission window (seconds). Attributes: non-creatable, modifiable
post-url		string optional	The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable
proxy-url		string optional	Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable
put-url		string optional	The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable
retry-count	**[0..2^32-1]**	integer optional	The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable
retry-interval		string optional	The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable
support-address		mail-address[] optional	The e-mail address of Support. Attributes: non-creatable, modifiable
to		mail-address[] optional	Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
transport		asup-transport optional	The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values: • "smtp" , • "http" - (DEPRECATED), • "https"
validate-digital-certificate		boolean optional	Validate Digital Certificate Received Attributes: non-creatable, modifiable

Element definition: **byte-rate**

[top]

Bytes per second Range : [0..2^63-1].

[none]

Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

Element definition: **mail-address**

[top]

E-mail Address

[none]

Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

Element definition: **time-interval**

[top]

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

[none]

Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" - (DEPRECATED),
- "https"

[none]

APIs in Category: **cf**

cf-aggregate-giveback-status
cf-force-takeover
cf-get-iter
cf-get-partner
cf-giveback
cf-hwassist-stats
cf-hwassist-stats-clear
cf-hwassist-status
cf-hwassist-test
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cf-negotiated-failover-enable
cf-negotiated-failover-status
cf-service-disable
cf-service-enable
cf-status
cf-takeover
cf-takeover-status

cf-aggregate-giveback-status

[top]

Returns giveback status of all the aggregates in the cluster which are taken over or were given back.

Input Name	Range	Type	Description
desired-attributes		cf-aggregate-giveback-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..100]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cf-aggregate-giveback-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cf-aggregate-giveback-info[]	The list of attributes of cf objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more cf objects to return.
num-records	**[0..100]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cf-force-takeover

[top]

Forces one filer to take over its partner even though the filer detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the filers causes the filers' NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the filer to take over its partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead.

Input Name	Range	Type	Description
disaster		boolean optional	When set to true, forces a filer to take over its partner in all cases where a force-takeover would. In addition it will force a takeover even if some partner mailbox disks are inaccessible. It can only be used when remotesyncmirror is licensed. This option is very dangerous. Not only can it cause data corruption, if not used carefully, it can also lead to a situation where both the filer and it's partner are operational (split brain). As such, it should only be used as a means of last resort when the takeover and force-takeover operations are unsuccessful in achieving a takeover. The operator must ensure that the partner filer does not become operational at any time while a filer is in a takeover mode initiated by the use of this operation. In conjunction with RAID mirroring, it can allow recovery from a disaster when the two filers are setup in a MetroCluster configuration.
node		string	This parameter is the name of the node which is doing a takeover of its partner.

Errno	Description
ETAKEOVERINPROGRESS	
ESENDHOMEINPROGRESS	
EVERSIONMISMATCH	
EMBOXDEGRADED	
EBADOPTIONS	
EWAITINGFORPARTNER	
ENOTHALTED	
ENODENOTFOUND	
EINTERNALERROR	

cf-get-iter

[top]

Iterate over a list of cf objects.

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

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

Errno	Description
EINTERNALERROR	

cf-get-partner

[top]

Get the host name of the partner. If the name is unknown, It will return partner-unknown.

Input Name	Range	Type	Description
node		string	The node name is passed as an argument

Output Name	Range	Type	Description
partner		string	Host name of the partner or partner-unknown, if the host name is not known.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

cf-giveback

[top]

Initiates a giveback of partner resources. Once the giveback is complete, the automatic takeover capability is disabled until the partner is rebooted. A giveback fails if outstanding CIFS sessions, active system dump processes, or other filer operations makes a giveback dangerous or disruptive.

Input Name	Range	Type	Description
force		boolean optional	When set to true, this allows a giveback to proceed even if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive as long as it would not result in data corruption or filer error. When set to false, this does not allow a giveback to proceed if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive. The default value is false.
node		string	This parameter is the name of the node which performs giveback to its partner.
only-cfo-aggregates		boolean optional	When set to true, only the CFO HA-style aggregates (which includes the root aggregate) will be given back. This may be needed in the case when the partner node's VLDB and other such management applications are not properly working (they are required to be online for the SFO HA-style aggregates to start serving data), so it might not be possible to giveback SFO HA-style aggregates. When set to false, all the aggregates (CFO HA-style aggregates + SFO HA-style aggregates) will be given back. The default value is false.
override-vetoes		boolean optional	Some conditions cause attempts to giveback aggregates to be vetoed. When set to true, this allows the process of giveback of the aggregates to be initiated even in the face of such vetoes. When set to false, this does not allow the process of giveback of the aggregates to proceed if there are any vetoes. The default value is false.
require-partner-waiting		boolean optional	When set to true, this ensures that the process of giveback of the aggregates is not initiated if the partner is not up and waiting to receive them. When set to false, this allows the process of giveback of the aggregates to proceed even if the partner is not up and waiting to receive them. The default value is true.

Errno	Description
EPARTNERNOTWAITING	
ENOAGGRS	
ESENDHOMEINPROGRESS	
ETAKEOVERINPROGRESS	
EHALTING	
ENOPARTNERINVENTORY	
EPARTNERMISSINGDISKS	
ENODENOTFOUND	
EINTERNALERROR	
EPARTNERTRYINGTAKEOVER	
E_ARL_IN_PROGRESS	

cf-hwassist-stats

[top]

Get useful information about statistics of hardware assisted takeover functionality.

Input Name	Range	Type	Description

Input Name	Range	Type	Description
node		string	Node name of the filer for which the API is requested.

Output Name	Range	Type	Description
hwassist-stats-abnormal-reboot		string optional	Number of abnormal_reboot alerts received
hwassist-stats-bad-nvram-id		string optional	Number of bad NVRAM id alerts received
hwassist-stats-dimm-uecc-error		string optional	Number of dimm_uecc_error alerts received
hwassist-stats-keep-alive		string optional	Number of keep_alive alerts received
hwassist-stats-loss-of-heartbeat		string optional	Number of loss_of_heartbeat alerts received
hwassist-stats-post-error		string optional	Number of post_error alerts received
hwassist-stats-power-cycle-via-rlm		string optional	Number of power_cycle_via_rlm alerts received
hwassist-stats-power-cycle-via-sp		string optional	Number of power_cycle_via_sp alerts received
hwassist-stats-power-loss		string optional	Number of power_loss alerts received
hwassist-stats-power-off-via-rlm		string optional	Number of power_off_via_rlm alerts received
hwassist-stats-power-off-via-sp		string optional	Number of power off alerts received from service processor (power_off_via_sp alert).
hwassist-stats-reset-via-rlm		string optional	Number of reset_via_rlm alerts received
hwassist-stats-reset-via-sp		string optional	Number of reset_via_sp alerts received
hwassist-stats-ss-mismatch		string optional	Number of shared secret key mismatch alerts received
hwassist-stats-test		string optional	Number of test alerts received
hwassist-stats-times-throttled		string optional	Number of times hardware assist alerts were throttled. Alerts are throttled when too many are received in a short interval.
hwassist-stats-unknown-alerts		string optional	Number of unknown alerts received
hwassist-stats-watchdog-reset		string optional	Number of l2_watchdog_reset alerts received
no-stats		string optional	If no hardware assist statistics are available, this is set to "Cannot determine hwassist stats".

Errno	Description
EINTERNALERROR	

cf-hwassist-stats-clear

[top]

Get useful information about stats of hw_assist functionality.

Input Name	Range	Type	Description

node		string	Node name of the filer for which the API is requested.

Errno	Description
EINTERNALERROR	

cf-hwassist-status

[top]

Get useful information about the status of hw_assist functionality.

Input Name	Range	Type	Description
node		string	Node name of the filer for which the API is requested.

Output Name	Range	Type	Description
keep-alive-status		string optional	Possible values are: • healthy • missed_keep_alive_alerts
local-hwassist-inactive-corrective-action		string optional	Indicates the corrective action if status is inactive.
local-hwassist-inactive-reason		string optional	Indicates the reason if status is inactive.
local-hwassist-ipaddr		string optional	If set, Ip address; 0.0.0.0 otherwise
local-hwassist-port		integer optional	If set, port; 0 otherwise
local-hwassist-status		string optional	Local node hw_assist status Possible values are: • active: If functionality is active. • inactive: If functionality is inactive
no-status		string optional	Set if no hw_assist status is avaliable. Either this or the remaining fields will be set,hence they are optional.
partner-hwassist-inactive-corrective-action		string optional	Indicates the corrective action if status is inactive.
partner-hwassist-inactive-reason		string optional	Indicates the reason if status is inactive.
partner-hwassist-ipaddr		string optional	If set, Ip address, 0.0.0.0 otherwise
partner-hwassist-port		integer optional	If set, current port, 0 otherwise
partner-hwassist-status		string optional	partner node hw_assist status Possible values are: • active: If functionality is active. • inactive: If functionality is inactive

Errno	Description
EINTERNALERROR	

cf-hwassist-test

[top]

Validates the hardware-assisted takeover configuration. functionality.

Input Name	Range	Type	Description
node		string	Node name of the filer for which the API is requested.

Output Name	Range	Type	Description
hwassist-test-result		string	This string corresponds to the result of the test. The possible outcomes are: Hwassist is not initialized No hw_assist hardware found. Partner is throttling alerts. Resource busy. Try again after some time. Hwassist hardware returned error. No response from partner. Timed out. Unexpected abort. Partner has taken over. Interconnect is down between nodes. Make sure partner is booted up.Run 'storage failover hwassist show' for details.

Errno	Description
EINTERNALERROR	

cf-mode-set

[top]

Enable or disable the high-availability (HA) for this node. A reboot of the node is required for the HA mode to become effective.

Input Name	Range	Type	Description
mode		string	HA mode. Possible values: • 'ha' - Enable high-availability(HA). After HA is enabled, giveback and and takeover are available. • 'non_ha' - Disable high-availability(HA). After HA is disabled, the giveback and takeover are not available. Note that changing the mode to non_ha requires disabling the takeover facility by calling cf-service-disable.
node		node-name	Node name

Errno	Description
ESERVICEENABLED	
EINTAKEOVER	
EINTERNALERROR	

cf-modify-iter

[top]

Modify the attributes of cf or a group of cf objects.

Input Name	Range	Type	Description
attributes		options-related-info-modify	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple cf objects match a given query. If set to true, the API will continue modifying the next matching cf even when modification of a previous cf fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching cf even when the modification of a previous matching cf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		options-related-info-modify	If modifying a specific cf, this input element must specify all keys. If modifying cf objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of cf objects (just keys) that were not modified due to some error. If set to false, the list of cf objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of cf objects (just keys) that were successfully updated. If set to false, the list of cf objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

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

Errno	Description

Errno	Description
EINTERNALERROR	

cf-negotiated-failover-disable

[top]

Disables negotiated failover. disk_shelf is the negotiated failover module currently supported.

Input Name	Range	Type	Description
module		string	Module currently supported is 'disk_shelf'.

Errno	Description
EINTERNALERROR	

cf-negotiated-failover-enable

[top]

Enables negotiated failover. disk_shelf is the negotiated failover module currently supported.

Input Name	Range	Type	Description
module		string	Module currently supported is 'disk_shelf'.

Errno	Description
EINTERNALERROR	

cf-negotiated-failover-status

[top]

Returns the status of the negotiated failover module. Negotiated failover is a general facility which supports negotiated failover on the basis of decisions made by various modules.

Input Name	Range	Type	Description
module		string	Module currently supported is 'disk_shelf'

Output Name	Range	Type	Description
is-enabled		boolean	True, if storage failover for this module is enabled, false otherwise.

Errno	Description
EINTERNALERROR	

cf-service-disable

[top]

Disables the takeover capability of this filer in the cluster.

Input Name	Range	Type	Description
node		string	This parameter is the name of the node on which service is to be disabled

Errno	Description
ESERVICENOTINITIALIZED	
ESERVICENOTLICENSED	
ESERVICENOTENABLED	
EREVERTINPROGRESS	
EINTERNALERROR	

cf-service-enable

[top]

Enables the takeover capability of this filer in the cluster. This spawns a process to enable the service

Input Name	Range	Type	Description
node		string	This parameter is the name of the node on which service is to be enabled

Errno	Description
ESERVICENOTINITIALIZED	
ESERVICEENABLED	
EREVERTINPROGRESS	
EMBOXUNKNOWN	
EINTERNALERROR	

cf-status

[top]

Get useful information about the status of the high availability service. If the monitor is not initialized, this returns an error.

Input Name	Range	Type	Description
node		string	This parameter is the name of the node for which High Availability service status is being requested

Output Name	Range	Type	Description
backup-io-times		mailbox-io-times-info optional	Backup mailbox IO times. Not returned if state is "waiting_for_root_aggr".
backup-mailbox-status		mailbox-status-info[] optional	Backup mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr".
booting-received		integer	time booting notification received, in milliseconds.
control-partner-		boolean	True, if we control one or more partner aggregates.

aggregates			
current-giveback-module		string optional	The current module giveback process is in
current-mode		string optional	Current HA mode
current-resource-table-entry		string optional	If we're doing takeover processing, the name of the current entry in the resource table.
current-resource-table-entry-index		integer optional	If we're doing takeover processing, the index of the current entry in the resource table.
current-takeover-module		string optional	The current module takeover process is in. e.g. WAFL
current-time		integer	Current time on the filer
fanta-reloc-aggr-count		integer optional	Number of partner homed aggregates owned by local node.
firmware-received		integer	time firmware notification received, in milliseconds.
giveback-failure-reason		string optional	If a giveback failed this is the reason for the giveback failure. Possible values are: • aggr_relocation_in_progress - aggregate relocation is in progress • shutdown_in_progress - shutdown is in progress • testpoint - a giveback failure was simulated with a testpoint • cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems • bck_mbx_update_error - node could not update its backup mailbox • disaster_recovery_in_progress - disaster recovery operation is in progress • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node
			Giveback state of the node. Possible values are: • nothing_to_gb - No partner aggregates owned by local node • not_attempted_yet - Local node owns partner aggregates and a giveback has not been attempted yet • giveback_in_progress - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in. • giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_vetoed_no_di - Normal giveback not possible as

giveback-state		string optional	disk inventory from partner has not yet been received • giveback_vetoed_missing_disks - Normal giveback not possible as the partner is missing some of its files system disks • autogiveback_scheduled - An auto giveback is scheduled Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • autogiveback_deferred - Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates. • node_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process • sfo_aggr_giveback_failed - Giveback of SFO aggregates failed. Call cf-aggregate-giveback-status API for more information regarding giveback failure. • sfo_aggr_giveback_in_progress - Giveback of SFO aggregates is in progress. Call cf-aggregate-giveback-status API for more information regarding giveback status. • partial_giveback - Local node owns partner SFO aggregates • partner_spare_disks_giveback_pending - Local node owns partner's spare disks
ha-type		string optional	HA type Possible values are: • none - None • shared_storage - Shared storage HA configuration • non_shared_storage - Non-shared storage HA configuration ***** typedefs *****
interconnect-links		string optional	States of the individual interconnect links e.g. VIA Interconnect is down (link 0 down, link 1 down) VIA Interconnect is up (link 0 down, link 1 up) VIA Interconnect is up (link 0 up, link 1 down)
interconnect-type		string optional	Type and Vendor of the interconnect e.g. Infiniband (Mellanox Sinai) FCVI (Qlogic 2462)
is-enabled		boolean	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reason.
is-interconnect-up		boolean	True, if high availability interconnect is up
kill-packets		boolean	True, if we issue ic kill messages during takeover.
local-firmware-progress		integer optional	A counter to indicate that the local node is progressing in the current firmware state The range of possible values is [0..2^31-1]
			Local firmware state that will be communicated through interconnect to the partner • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting

local-firmware-state		string optional	• SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for HA mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps
local-in-headswap		boolean optional	True, if the local node is being replaced by a new node.
local-mailbox-disks		sf-disk-info[] optional	List of local mailbox disks. Not returned if state is "waiting_for_root_aggr".
local-missing-disks		sf-disk-info[] optional	List of disks that the local node is missing but the partner node is able to view.
logs-unsynced-count		integer	Number of times the log was unsynchronized.
max-resource-table-index		integer optional	The maximum resource table index.
mode		string optional	High-availability (HA) mode for this node Possible values: • 'ha' - High-availability is enabled. • 'non_ha' - High-availability is disabled.
name		string	Hostname of the dblade.
new-partner-sysid	**[0..2^32-1]**	integer optional	The new partner system ID recieved via HA interconnect. The value is zero if partner is not in headswap.
			State of the storage failover of the node. Possible values are: • connected - Partner is available for takeover • takeover_scheduled - Partner is down and takeover is scheduled • takeover_started - Takeover process has begun • takeover - Currently controlling partner's resources. • takeover_failed - Failed to takeover the partner • giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. • giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. • waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned. • waiting - Waiting for a connection to partner. Generally happens while partner is rebooting.

node-state		string optional	• in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not). • pending_shutdown - starting a takeover/giveback is inhibited due to a pending system shutdown. • relocating_aggrs_before_takeover - node is relocating its SFO aggregates to its partner prior to a negotiated takeover. • sfo_takeover_phase_done - Node is done with the SFO phase of takeover. • sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. • sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason. • sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. • in_non_HA_mode - Node is not in HA mode • cfo_takeover_failed - CFO phase of takeover failed • sfo_takeover_phase - SFO phase of takeover of partner is in progress • relocated_aggrs_before_takeover - node has relocated its SFO aggregates to its partner prior to a negotiated takeover. • giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in. • giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated. • previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed. • takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received. • takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks. • takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • takeover_network_failure - Local node in takeover. The partner was taken over due to network failure. • takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates. • automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when

			raid.panic.missing.disks is turned on from node CLI. • automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI. • ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process. • own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade. • own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade. • clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online. • clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online. • dr_op_in_progress - MetroCluster disaster recovery operation is in progress. • error - There is an error with the system User have to compare the return values case-insensitively.
nvram-id	**[0..2^32-1]**	integer	NVRAM identifier
partner		string	Hostname of the partner. If the partner is unknown, returns an empty string.
partner-firmware-progress		integer optional	A counter to indicate that the partner node is progressing in the current firmware state The range of possible values is [0..2^31-1]
partner-firmware-state		string optional	Partner firmware state as communicated by the partner through interconnect • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for HA mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover

			• SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps
partner-in-headswap		boolean optional	True, if partner node is being replaced by a new node.
partner-mailbox-disks		sf-disk-info[] optional	List of partner mailbox disks as this dblade sees them. Not returned if state is "waiting_for_root_aggr".
partner-missing-disks		sf-disk-info[] optional	List of disks that the partner node is missing but the local node is able to view.
partner-name		string optional	Hostname of the partner. Not returned if unknown.
partner-nvram-id	**[0..2^32-1]**	integer optional	Partner NVRAM identifier. Not returned if unknown.
primary-io-times		mailbox-io-times-info optional	Primary mailbox IO times. Not returned if state is "waiting_for_root_aggr".
primary-mailbox-status		mailbox-status-info[] optional	Primary mailbox statusPrimary mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr".
resource-table		resource-table-info[] optional	The failover monitor resource table.Pre-rsrctbl information will be prep-ended to this output.
sf-options		sf-options-info optional	Options for debugging purpose. The actual interface is via the options mechanism. Not returned if state is "waiting_for_root_aggr".
state		string optional	connected - Partner is available for takeover takeover_scheduled - Partner is down and takeover is scheduled takeover_started - Takeover process has begun takeover - Currently controlling partner's resources. taken over - Partner is controlling filer's resources takeover_failed - Failed to takeover the partner sfo_takeover_phase - This node has asked its partner to relocate its SFO aggregates in preparation for takeover. This occurs when a user has initiated an optimized negotiated takeover. relocating_aggrs_before_takeover - This node is relocating its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_done - This node is done with the SFO phase of an optimized negotiated takeover. sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_aborted - The SFO phase of takeover is aborted on this node during an optimized negotiated takeover of its partner. sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. giving_back - Sendhome process in progress giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not

			returned. waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not). pending_shutdown - starting a takeover/sendhome is inhibited due to a pending system shutdown. error - There is an error with the system User have to compare the return values case-insensitively.
takeover-by-partner-not-possible-reason		takeover-info[] optional	If takeover by the partner is not possible, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed.
takeover-by-partner-possible		boolean optional	True, if storage failover takeover is currently possible by the partner, false otherwise. Note that this is the local node's view of partner.
takeover-failure-reason		string optional	If state equals "takeover_failed", this is the reason for the takeover failure. Possible values are: • shutdown_in_progress - shutdown is in progress • aggr_relocation_in_progress - aggregate relocation is in progress • giveback_in_progress - giveback is in progress • takeover_in_progress - takeover is in progress • unknown_partner_id - node could not detect its partner's system ID • conflicting_sysid - node has the same system ID as its partner • pri_mbx_update_error - node could not update its primary mailbox • takeover_disabled_by_partner - partner has disabled takeover • cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems • non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot • bck_mbx_update_error - node could not update its backup mailbox • partner_taking_over - partner is taking over local node • revert_in_progress - revert is in progress • disaster_recovery_in_progress - disaster recovery operation is in progress • headswap_in_progress - headswap is in progress • destination_check_failed - destination check failed • communication_failed - communication with destination failed • operation_aborted - operation was aborted • aggr_not_online - destination node did not online the aggregate being relocated in time • sfo_disabled - storage failover service is not enabled • partner_taking_over - partner is taking over local node • bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node • bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node • partner_shutting_down - shutdown is in progress on the partner node • partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node • partner_giveback_in_progress - giveback is in progress on the partner node • partner_revert_in_progress - revert is in progress on the

			partner node • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node • partner_in_headswap - headswap is in progress on the partner node
takeover-of-partner-not-possible-reason		takeover-info[] optional	If is-enabled is false, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed.
takeover-possible		boolean	True, if storage failover takeover is currently possible, false otherwise.
takeover-reason		string optional	Reason for triggering a takeover of partner.
takeover-state		string optional	Takeover state of the node. Possible values are: • takeover_failed - Takeover Failed • sfo_takeover_in_progress - SFO phase of takeover of partner is in progress • relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner • cfo_takeover_scheduled - CFO phase of takeover is scheduled • relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner • takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure. • in_takeover - Node is in takeover • takeover_started - A takeover is in progress • takeover_scheduled - A takeover of partner is scheduled. Refer to time-until-takeover field to check time remaining till takeover. • not_in_takeover - Local node is not in takeover
time-since-takeover		integer optional	Time in milliseconds since the local node has taken over partner.
time-until-auto-giveback		integer optional	If state == takeover this is the countdown time in seconds until auto-giveback is started. The range of possible values is [0..2^31-1]. This attribute will be absent on output when the value is 0.
time-until-takeover		integer optional	if state == takeover_scheduled, this is the countdown time in seconds until state == takeover_started.
timeouts		timeout-info	Various failover monitor timeouts.
transit-event-time		integer	Time at which last takeover/giveback event occurred, in milliseconds.

Errno	Description
ENODENOTFOUND	

Vfiler-enabled
Yes

cf-takeover

[top]

Initiates a takeover of the storage partner. Takeover is done asynchronously; status may be monitored by calling the cf-status API and examining the state field. If automatic giveback is enabled then control will be returned to storage partner once it boots up.

Input Name	Range	Type	Description
allow-disk-inventory-mismatch		boolean optional	This allows takeover if disk inventory information is mismatched for non root volume disks. If mismatched, local node performance could degrade as what appears to be missing disks are rebuilt. NOTE:: When using this option and if some of partner's file system disks are not visible to local node, then after giveback those missing disks can create new failed aggregate with same name. So, if any aggregate is offline after giveback with same name then using "zapi_aggr_destroy", you have to destroy that offline aggregate.
bypass-optimization		boolean optional	The bypass-optimization option determines whether or not an optimized negotiated takeover is run. Optimized negotiated takeover refers to the serial relocation of SFO aggregates to the taking over node, prior to a negotiated takeover. This is an optimization because it reduces per-aggregate client outage times. If the bypass-optimization option is set to true, then the takeover optimization is bypassed, and the normal takeover code path is executed. The default value for this option is false.
force		boolean optional	It forces a node to take over its storage partner even though the node detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the nodes(ha pair) causes the nodes NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the node to take over its storage partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead.
halt		boolean optional	This parameter specifies whether the node being taken over should be halted. If the value is true, then the node being taken over is halted. If the value is false, then the node being taken over is shutdown and might be rebooted if AUTOBOOT is set to true. This parameter defaults to false.
ignore-quorum-warnings		boolean optional	This option ignores errors that would be returned due to a takeover of the epsilon node or causing an out of quorum. The default value is `false` and thuse the default behavior is to fail on quorum-warnings.
immediate		boolean optional	This causes takeover to be initiated immediately. The taken over node, if up, does not get to shut things down in an orderly manner so the takeover of the resources takes longer.
node		string	This parameter is the name of the node which is doing a takeover of its partner.
override-vetoes		boolean optional	The override-vetoes option ignores any vetoes occuring as part of a negotiated takeover and allows the takeover operation to continue. The default value is `false` which means the operation fails by default if a veto is encountered.
skip-lif-migration		boolean optional	This option results in migration of LIFs to be skipped prior to a takeover. However if LIFs on this node are configured for failover, those LIFs may still failover after the reboot has occurred. The default value is `false` and hence the default behavior is to synchronously migrate data and cluster management LIFs away from the node prior to its takeover.
version-mismatch-ok		boolean optional	This allows takeover if the partner was running an incompatible operating system version and was cleanly halted. This option is used for non-disruptive upgrade(NDU).

Errno	Description
ETAKEOVERINPROGRESS	
ESENDHOMEINPROGRESS	

EVERSIONMISMATCH	
EMBOXDEGRADED	
EBADOPTIONS	
EWAITINGFORPARTNER	
ENOTHALTED	
ENODENOTFOUND	
EINTERNALERROR	
EINVENTORYMISMATCH	
ENOPARTNERINVENTORY	
EPARTNERTRYINGTAKEOVER	
E_NODE_NOT_SF_UP	
EARL_ABORT_FAILED	
ECIFSACTIVEONPARTNER	
E_RESET_DEFAULT_IMAGE_TO_TAKEOVER	

cf-takeover-status

[top]

Get the takeover status of a node and the takeover status of all its partner aggregates, for all nodes in a cluster.

Input Name	Range	Type	Description
desired-attributes		takeover-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..100]**	integer optional	The maximum number of records to return in this call. Default: 20
query		takeover-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		takeover-status[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	**[0..100]**	integer	The number of records returned in this call.

Errno	Description
ESERVICENOTINITIALIZED	
EAGGR_MIGRATE_CORE	
ENOT_SFO_HA_POLICY	
EAGGR_FAILED_LIMBO	
EAGGR_MIGRATE_OFFLINE_FAILED	
EAGGR_MIGRATE_VETO	

EAGGR_MIGRATE_HA_MSG_ERR	
EAGGR_MIGRATE_ONLINE_TIMEOUT	
EAGGR_MIGRATE_ONLINE_FAILED	
E_NETRA_CHK_FAILED	
E_AGGR_MIGRATE_ABORTED	
E_TKOVR_ABORT_CHK_FAILED	
EAGGR_MIGRATE_PRECOMMIT_FAILED	
EAGGR_MIGRATE_RESTRICTED	
EAGGR_MIGRATE_OFFLINE	
EAGGR_MIGRATE_FOREIGN	
ENOT_BOTH_PLEX_ONLINE	
E_BDFU_FAILED_AGGR_MIGRATION_SOURCE	
E_BDFU_FAILED_AGGR_MIGRATION_DEST	
ENODISKSFOUND	

Element definition: **cf-aggregate-giveback-info**

[top]

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

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

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

Name	Range	Type	Description
aggr-giveback-error		string optional	Failure reason, incase giveback of this aggregate failed. Possible values include: • "sfo_am_shutdown" - Node is being shutdown • "sfo_am_not_homed_partner" - Aggregate not owned by partner • "sfo_am_not_sfo" - Aggregate does not have SFO policy • "sfo_am_failed_limbo" - Aggregate in failed or limbo state • "sfo_am_offline_failed" - Aggregate could not be offlined during giveback • "sfo_am_migrating" - Aggregate is being migrated • "sfo_am_veto" - Giveback was vetoed. • "sfo_am_communication_err" - Giveback failed because node cannot communicate with the partner • "sfo_am_online_timeout" - Aggregate did not come online after giveback • "sfo_am_online_failed" - Failed to online the aggregate after giveback • "sfo_am_hdd_to_aff_dest" - Migration of a non-SSD aggregate to an All-Flash Optimized destination is not allowed Attributes: non-creatable, non-modifiable
aggr-giveback-module		string optional	If giveback is in progress, then this is set to the module which is currently running. If giveback was failed or vetoed by a certain module then this is set to the first module which failed the giveback. Example: WAFL. Attributes: non-creatable, non-modifiable

aggr-giveback-state		string optional	Giveback status of the aggregate Possible values include: • "sfo_am_done" - Giveback done • "sfo_am_failed" - Giveback failed • "sfo_am_inprog" - Giveback in progress • "sfo_am_not_started" - Giveback not started • "sfo_am_nothing_to_gb" - No aggregates to giveback • "sfo_disk_inventory_not_exchanged" - Auto giveback failed because disk inventory was not exchanged between HA partners • "sfo_disk_inventory_mismatch" - Auto giveback failed because there was mismatch in disk inventory • "sfo_am_failed_bdfu_source" - Giveback failed as failed to disable background disk firmware update on source node. • "sfo_am_failed_bdfu_dest" - Giveback failed as failed to disable background disk firmware update on destination node. • "sfo_am_delayed_bdfu_source" - Giveback delayed as disk firmware update is in progress on source node. • "sfo_am_delayed_bdfu_dest" - Giveback delayed as disk firmware update is in progress on destination node. • "sfo_am_running_checks" - Performing veto checks. Attributes: non-creatable, non-modifiable
aggregate		string optional	Aggregate name Attributes: non-creatable, non-modifiable
destination-node		string optional	Node to which the aggregate is being given back Attributes: non-creatable, non-modifiable
node		node-name optional	Node performing the giveback of aggregate Attributes: key, non-creatable, non-modifiable

Element definition: **cf-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against cf object.

Name	Range	Type	Description
cf-key		options-related-info-modify	The keys for the cf object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **mailbox-io-times-info**

[top]

Mailbox IO times

Name	Range	Type	Description
normal		integer	Maximum IO time in milliseconds, normal
transition		integer	Maximum IO time in milliseconds, transition

Element definition: **mailbox-status-info**

[top]

Mailbox status info.

Name	Range	Type	Description
mailbox-status		string	representation of mailbox status bit. Possible values: mbx_status_nodisks mbx_status_uncertain mbx_status_stale mbx_status_conflicted mbx_status_old_version mbx_status_not_found mbx_status_wrong_state mbx_status_backup

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **options-related-info-modify**

[top]

Storage Failover Options to Modify

Name	Range	Type	Description
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
failover-enabled		boolean optional	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable
ha-mode		hamode optional	Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values: • "ha" , • "non_ha"
node		node-name optional	Node name Attributes: key, non-creatable, non-modifiable
sfo-advanced-options-info-modify		advanced-options-modify optional	Advanced Options to Modify
sfo-giveback-options-info-modify		giveback-options-modify optional	Giveback Options to Modify
sfo-takeover-		takeover-options-	Takeover Options to Modify

options-info-modify		modify optional	

Element definition: **resource-table-info**

[top]

A failover monitor resource table entry.

Name	Range	Type	Description
fail		string	Entry failure code, represented as a string: ok fail fail_always hang panic veto
name		string	Name of the entry
state		string	Entry state, represented as a string: up start_running start_done start_failed stop_running stop_failed takeover_barrier only_when_initd
time-delta		integer optional	Amount of time spent in this element, in milliseconds.

Element definition: **sf-disk-info**

[top]

Disk information.

Name	Range	Type	Description
disk-cluster-name		string optional	A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'. Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
disk-uid		string	Disk unique identifier. Maximum length of 90 characters. XXX should use same typedef as storage ZAPI. Note sure where it is defined.
name		string optional	Name of the disk, e.g. v1.1
physical-location		integer optional	Name of the location where the disk is physically present. This can be local, partner or mediator.

Element definition: **sf-options-info**

[top]

Options for debugging purpose.

Name	Range	Type	Description
aggregate-migration-timeout		integer optional	Number of seconds the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. The default setting is 40 seconds.
bypass-takeover-		boolean	If true, then optimized negotiated takeover is bypassed. If false, negotiated takeover will be optimized. The default value for this

optimization		optional	option is false. This option will be available starting with Data ONTAP 8.2.
giveback-auto		boolean	Indicates if the automatic giveback is enabled. Same as send-home-auto.
hwassist-enable		boolean	Indicate if hardware assist takeover is enabled.
hwassist-health-check-interval		integer	Hardware assist h/w sends a heartbeat every '-health-check-interval' seconds.
hwassist-partner-ip		string	Hardware assist Ip address of the partner.
hwassist-partner-port		integer	Port number on which hwassist receives alerts.
hwassist-retry-count		integer	Number of times we repeat sending an alert.
mode		string optional	HA mode in registry
node-status-in-mailbox-disks		boolean	Indicates if we propagate node status via mailbox disks.
node-status-in-mailbox-disks-read-interval		integer	Rate in seconds at which we read node status from mailbox disks.
node-status-in-mailbox-disks-write-interval		integer	Rate in seconds at which we write node status to mailbox disks.
send-home-auto		boolean	Indicates if the automatic send-home facility enabled.
send-home-auto-attempts		integer	The number of times we'll try to do an automatic giveback within send-home-auto-minutes
send-home-auto-attempts-minutes		integer	The number of minutes in which we should not exeeced send-home-auto-attempts automatic send-home attempts.
send-home-auto-delay-seconds		integer	The number of seconds of delay before initiating automatic send-home. This will be the minimum time a node will be in takeover state before performing auto sendhome.
send-home-check-partner-waiting		boolean	Indicates if we require the partner to be waiting for a send-home in order to do a send-home.
takeover-detection-time		integer	Takeover detection time in seconds.
takeover-on-failure		boolean	Indicates if we will automatically takeover upon partner failure.
takeover-on-panic		boolean	Indicates if we will automatically takeover upon partner panic.
takeover-on-reboot		boolean	Indicates if we will automatically takeover upon partner reboot.
takeover-on-short-uptime		boolean	Indicates if we will automatically takeover if the partner fails within 60 seconds of booting.

Element definition: **storage-failover-info**

[top]

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

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

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

Name	Range	Type	Description
sfo-giveback-info		giveback-related-info optional	Giveback related Info
sfo-interconnect-info		interconnect-related-info optional	Interconnect Info
sfo-node-info		node-related-info optional	Node Info
sfo-options-info		options-related-info optional	Options Info
sfo-storage-info		storage-related-info optional	Storage Info
sfo-takeover-info		takeover-related-info optional	Takeover related Info

Element definition: **takeover-info**

[top]

Takeover info.

Name	Range	Type	Description
reason		string	reason we can't takeover: • not_initialized - Controller Failover not initialized • non_ha_mode - Controller is in non-HA mode • disabled - Controller Failover takeover disabled • mailbox_invalid - Partner mailbox disks not accessible or invalid • mailbox_uninit - Partner mailbox status uninitialized • fm_version_mismatch - Failover monitor version mismatch • partner_disabled - Takeover disabled by partner • operator_deny - Takeover disabled by operator • nvram_mismatch - NVRAM size mismatch • version - Version mismatch • ic_error - Interconnect error • booting - Partner booting • shelf_hot - Disk shelf is too hot • partner_revert_in_progress - Partner is performing revert • local_revert_in_progress - Revert is in progress • partner_takeover - Partner is attempting takeover • local_takeover - Already in takeover mode • halt_no_takeover - Partner halted in notakeover mode • log_unsync - NVRAM log unsynchronized • unknown - No takeover due to unknown reason • waiting_for_partner - Waiting for partner to recover • low_memory - Low memory condition • halting - Local halt in progress • mailbox_uncertain - Status of partner mailbox is uncertain • no_auto_takeover - Automatic takeover is disabled • disk_inventory_not_exchanged - Disk inventory information not received

			from partner • disk_inventory_mismatch_local - Local node missing some of partner node's file system disks • pending_shutdown - Local node is shutting down • dr_in_progress - metrocluster disaster recovery operation is in progress. • mcc_node_object_limit - This node or partner node is in switchover state and MetroCluster config option node-object-limit is off in the DR group of this node.

Element definition: **takeover-status**

[top]

Takeover status of a node and all of its partner aggregates. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

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

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

Name	Range	Type	Description
aggregate-takeover-status		string	Takeover status of the partner aggregate. This includes the reason for the failure of takeover of an aggregate. If takeover is in progress in a particular module, or if takeover was vetoed by a particular module, that is also indicated. Possible values include: • Done • Failed • In progress, Module: wafl • Not attempted yet • Failed: Operation was vetoed, Module: example. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate does not have SFO HA policy. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate is in failed or limbo state. The aggregate will be taken over during CFO phase of takeover. • Failed to offline the aggregate. The aggregate will be taken over during CFO phase of takeover. • No aggregates to relocate • Failed: Node cannot communicate with the destination node. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. • Failed: Destination node did not online the aggregate on time. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. • Failed: Destination node failed to online the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.

			Failed: Destination cannot receive the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. • Failed: Aggregate is restricted. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate does not have disks. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate is foreign. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate is offline. The aggregate will be taken over during CFO phase of takeover. • Failed: Mirrored aggregate does not have both plexes online. The aggregate will be taken over during CFO phase of takeover. • Failed, could not disable firmware updates on . Attributes: non-creatable, non-modifiable
node		string	Name of the node. Attributes: key, non-creatable, non-modifiable
node-takeover-status		string	Takeover status of the node. Attributes: non-creatable, non-modifiable
taken-over-aggregate		string	Name of the taken over aggregate. Attributes: non-creatable, non-modifiable

Element definition: **timeout-info**

[top]

Failover monitor timeouts.

Name	Range	Type	Description
booting		integer	booting timeout, in milliseconds
connect		integer	connect timeout, in milliseconds
dumpcore		integer	dumpcore timeout, in milliseconds
fast		integer	fast timeout, in milliseconds
firmware		integer	firmware timeout, in milliseconds
mailbox		integer	mailbox timeout, in milliseconds
operator		integer	operator timeout, in milliseconds
reboot		integer optional	reboot timeout, in milliseconds
slow		integer	slow timeout, in milliseconds
transit		integer	transit timeout, in milliseconds
transit-timer-enabled		boolean	True, if the transit timer is enabled

Element definition: **advanced-options-modify**

[top]

Advanced Options to Modify

Name	Range	Type	Description

aggregate-migration-timeout	**[30..300]**	integer optional	Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable
cifs-ndo-duration		cifsndoduration optional	Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values: • "default" , • "medium" , • "low"
propagate-mailbox-enabled		boolean optional	Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable
read-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable
write-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable

Element definition: **giveback-options-modify**

[top]

Giveback Options to Modify

Name	Range	Type	Description
auto-giveback-after-panic-enabled		boolean optional	Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
auto-giveback-override-vetoes-enabled		boolean optional	Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable
autogiveback-delay	**[0..600]**	integer optional	Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable
check-partner-enabled		boolean optional	Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable
giveback-attempts-count	**[2..10]**	integer optional	Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable
giveback-attempts-interval	**[1..90]**	integer optional	Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable

Element definition: **giveback-related-info**

[top]

Giveback related Info

Name	Range	Type	Description
giveback-failure-reason		string optional	This is the reason for the giveback failure. Possible values are: • aggr_relocation_in_progress - aggregate relocation is in progress • shutdown_in_progress - shutdown is in progress • testpoint - a giveback failure was simulated with a testpoint • cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems • bck_mbx_update_error - node could not update its backup mailbox • disaster_recovery_in_progress - disaster recovery operation is in progress • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node Attributes: non-creatable, non-modifiable
giveback-module		string optional	The current module giveback process is in. e.g. WAFL Attributes: non-creatable, non-modifiable
giveback-state		string optional	Giveback state of the node. Possible values are: • nothing_to_gb • not_attempted_yet • giveback_in_progress • giveback_failed_autogiveback_disabled • giveback_failed_autogiveback_scheduled • previous_giveback_failed • giveback_vetoed_no_di • giveback_vetoed_missing_disks • autogiveback_scheduled • autogiveback_deferred • node_upgrade_in_progress • sfo_aggr_giveback_failed • sfo_aggr_giveback_in_progress • partial_giveback • partner_spare_disks_giveback_pending Attributes: non-creatable, non-modifiable

Element definition: **hamode**

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High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

Element definition: **interconnect-related-info**

[top]

Interconnect Info

Name	Range	Type	Description
interconnect-links		string optional	States of the individual interconnect links. Attributes: non-creatable, non-modifiable
interconnect-type		string optional	Type and Vendor of the interconnect. Attributes: non-creatable, non-modifiable
is-interconnect-up		boolean optional	True, if storage failover interconnect is up. Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-related-info**

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Node Info

Name	Range	Type	Description
current-mode		hamode optional	Current HA Mode Attributes: non-creatable, modifiable Possible values: • "ha" , • "non_ha"
ha-type		hatype optional	Specifies the type of high-availability configuration. Possible values are: • none - none • shared_storage - shared storage high-availability configuration • non_shared_storage - non-shared storage high-availability configuration Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "shared_storage" - Shared storage HA configuration, • "non_shared_storage" - Non-shared storage HA configuration
local-firmware-progress	**[0..2^32-1]**	integer optional	A counter to indicate that the local node is progressing in the current firmware state. If the counter is not progressing the node may be unresponsive or down. Attributes: non-creatable, non-modifiable
			Local firmware state that will be communicated through interconnect

local-firmware-state		string optional	to the partner. Possible values are: • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for cluster mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps Attributes: non-creatable, non-modifiable
node		node-name optional	Node name Attributes: key, non-creatable, non-modifiable
			Storage failover status of the node. Possible values are: • connected - Partner is available for takeover. • takeover_scheduled - Partner is down and takeover is scheduled. • takeover_started - Takeover process has begun. • takeover - Currently controlling partner's resources. • takeover_failed - Failed to takeover the partner. • giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. • giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. • waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned. • waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. • in_maintenance_mode - Node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. cluster or not; takeover or not, etc). • pending_shutdown - Starting a takeover/giveback is inhibited due to a pending system shutdown. • relocating_aggrs_before_takeover - Node is relocating its SFO aggregates to its partner prior to a negotiated takeover. • sfo_takeover_phase_done - Node is done with the SFO phase of takeover.

node-state		string optional	sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. • sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason. • sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. • in_non_HA_mode - Node is not in HA mode • cfo_takeover_failed - CFO phase of takeover failed • sfo_takeover_phase - SFO phase of takeover of partner is in progress • relocated_aggrs_before_takeover - Node has relocated its SFO aggregates to its partner prior to a negotiated takeover. • giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in. • giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated. • previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed. • takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received. • takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks. • takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • takeover_network_failure - Local node in takeover. The partner was taken over due to network failure. • takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates. • automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI. • automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI. • ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process. • own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade.

			own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade. • clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online. • clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online. • dr_op_in_progress - MetroCluster disaster recovery operation is in progress. • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for cluster mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps Attributes: non-creatable, non-modifiable
nvram-id	**[0..2^32-1]**	integer optional	NVRAM identifier Attributes: non-creatable, non-modifiable
partner-firmware-progress	**[0..2^32-1]**	integer optional	A counter to indicate that the partner node is progressing in the current firmware state. If the counter is not progressing the partner node may be unresponsive or down. Attributes: non-creatable, non-modifiable
partner-			Partner firmware state as communicated by the partner through interconnect. Possible values are: • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting

firmware-state		string optional	• SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for cluster mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps Attributes: non-creatable, non-modifiable
partner-name		string optional	Storage failover partner node name Attributes: non-creatable, non-modifiable
partner-nvram-id	**[0..2^32-1]**	integer optional	Partner NVRAM identifier Attributes: non-creatable, non-modifiable
state-description		string optional	A detailed description of the storage failover state of the node. Attributes: non-creatable, non-modifiable

Element definition: **options-related-info**

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Options Info

Name	Range	Type	Description
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
failover-enabled		boolean optional	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable
ha-mode		hamode optional	Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values: • "ha" , • "non_ha"
sfo-advanced-options-info		advanced-options optional	Advanced Options
sfo-giveback-options-info		giveback-options optional	Giveback Options
sfo-takeover-options-info		takeover-options optional	Takeover Options

Element definition: **storage-related-info**

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Storage Info

Name	Range	Type	Description
local-mailbox-state		mailbox-state[] optional	Primary mailbox status information, represented as a list of strings. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
local-missing-disks		disk-uid[] optional	List of disks that the local node is missing but the partner node is able to view. Attributes: non-creatable, non-modifiable
mailbox-disks-local		disk-uid[] optional	List of local mailbox disks. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
mailbox-disks-partner		disk-uid[] optional	List of partner mailbox disks as this dblade sees them. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
partner-mailbox-state		mailbox-state[] optional	Backup mailbox status information, represented as a list of strings. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
partner-missing-disks		disk-uid[] optional	List of disks that the partner node is missing but the local node is able to view. Attributes: non-creatable, non-modifiable

Element definition: **takeover-options-modify**

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Takeover Options to Modify

Name	Range	Type	Description
bypass-takeover-optimization-enabled		boolean optional	Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable
short-uptime-duration	**[0..86400]**	integer optional	Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable
takeover-detection-interval	**[0..2^32-1]**	integer optional	Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable
takeover-onfailure-enabled		boolean optional	A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable
takeover-onpanic-enabled		boolean optional	Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable
takeover-onreboot-enabled		boolean optional	Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable

takeover-onshort-uptime-enabled		boolean optional	Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable

Element definition: **takeover-related-info**

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Takeover related Info

Name	Range	Type	Description
takeover-by-partner-not-possible-reason		reason-takeover-not-possible[] optional	It list of one or more reasons why takeover by partner is not possible. Attributes: non-creatable, non-modifiable
takeover-by-partner-possible		boolean optional	True, if storage failover takeover is currently possible. by the partner, false otherwise. Note that this is the local node's view of partner. Attributes: non-creatable, non-modifiable
takeover-enabled		boolean optional	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable
takeover-failure-reason		string optional	This is the reason for the takeover failure. Possible values are: • shutdown_in_progress - shutdown is in progress • aggr_relocation_in_progress - aggregate relocation is in progress • giveback_in_progress - giveback is in progress • takeover_in_progress - takeover is in progress • unknown_partner_id - node could not detect its partner's system ID • conflicting_sysid - node has the same system ID as its partner • pri_mbx_update_error - node could not update its primary mailbox • takeover_disabled_by_partner - partner has disabled takeover • cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems • non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot • bck_mbx_update_error - node could not update its backup mailbox • partner_taking_over - partner is taking over local node • revert_in_progress - revert is in progress • disaster_recovery_in_progress - disaster recovery operation is in progress • headswap_in_progress - headswap is in progress • destination_check_failed - destination check failed • communication_failed - communication with destination failed • operation_aborted - operation was aborted • aggr_not_online - destination node did not online the aggregate being relocated in time • sfo_disabled - storage failover service is not enabled

			partner_taking_over - partner is taking over local node • bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node • bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node • partner_shutting_down - shutdown is in progress on the partner node • partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node • partner_giveback_in_progress - giveback is in progress on the partner node • partner_revert_in_progress - revert is in progress on the partner node • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node • partner_in_headswap - headswap is in progress on the partner node Attributes: non-creatable, non-modifiable
takeover-module		string optional	The current module takeover process is in. e.g. WAFL Attributes: non-creatable, non-modifiable
takeover-of-partner-not-possible-reason		reason-takeover-not-possible[] optional	If takeover-possible field is false, it lists of one or more reasons why takeover of partner is not possible. Attributes: non-creatable, non-modifiable
takeover-of-partner-possible		boolean optional	True, if storage failover takeover is currently possible, false otherwise. Attributes: non-creatable, non-modifiable
takeover-reason		takeover-reason	List of reasons why a takeover can happen. Possible values are: • none - Not in takeover • takeover_normal - Operator initiated takeover • takeover_immediate - Operator initiated forced takeover • takeover_ndu - Takeover initiated as part of NDU • takeover_forced - Operator initiated forced takeover, possible data loss • takeover_early - Takeover occuring during bootup of a filer • takeover_operator_exp - Takeover occuring after operator timeout expired • takeover_post_failed - Takeover occuring on POST failure • takeover_panic - Takeover on panic • takeover_shortuptime - Takeover after quick toggling between up & down states • • takeover_sparecore_exp - Takeover on panic timeout expiry • takeover_reboot_exp - Takeover on reboot timer expiry • takeover_booting_exp - Takeover on booting timer expiry • takeover_nfo_shutdown - Takeover on negotiated failover shutdown • takeover_nfo_timer - Takeover on negotiated failover timer expiry • takeover_mdp - Takeover on multi-disk panic • takeover_reboot - Takeover on reboot • takeover_halt - Takeover on halt • takeover_clam - CLAM triggered takeover • takeover_hwassist - H/w assisted takeover Attributes: non-creatable, non-modifiable Possible values:

		optional	• "takeover_none" - None, • "takeover_immediate" - Immediate takeover, • "takeover_ndu" - NDU Takeover, • "takeover_forced" - Forced Takeover, • "takeover_disaster" - Disaster Takeover, • "takeover_early" - Early Takeover, • "takeover_operator_exp" - Takeover Operator Timeout, • "takeover_post_failed" - Takeover POST Failed, • "takeover_panic" - Takeover On Panic, • "takeover_shortuptime" - Takeover On Short Uptime, • "takeover_sparecore_exp" - Takeover On Sparecore Timeout, • "takeover_reboot_exp" - Takeover On Reboot Timeout, • "takeover_booting_exp" - Takeover On Booting Timeout, • "takeover_firmware_exp" - Takeover On Firmware Timeout, • "takeover_nfo_shutdown" - Takeover On Negotiated Failover, • "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout, • "takeover_mdp" - Takeover On MDP, • "takeover_reboot" - Takeover On Reboot, • "takeover_halt" - Takeover On Halt, • "takeover_clam" - CLAM Initiated Takeover, • "takeover_hwassist" - H/w assisted Takeover, • "takeover_normal" - Operator initiated takeover, • "takeover_comm_err" - Takeover On Communication Error
takeover-state		string optional	Takeover state of the node. Possible values are: • takeover_failed - Takeover Failed • sfo_takeover_in_progress - SFO phase of takeover of partner is in progress • relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner • cfo_takeover_scheduled - CFO phase of takeover is scheduled • relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner • takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure. • in_takeover - Node is in takeover • takeover_started - A takeover is in progress • takeover_scheduled - A takeover of partner is scheduled Refer to time-until-takeover field to check time remaining till takeover. • not_in_takeover - Local node is not in takeover Attributes: non-creatable, non-modifiable
time-since-takeover	**[0..2^32-1]**	integer optional	Time in milliseconds since the local node has taken over partner. Attributes: non-creatable, non-modifiable
time-until-takeover	**[0..2^32-1]**	integer optional	This is the countdown time in seconds until takeover is started. Attributes: non-creatable, non-modifiable

[top]

Element definition: **advanced-options**

Advanced Options

Name	Range	Type	Description
aggregate-migration-timeout	**[30..300]**	integer optional	Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable
cifs-ndo-duration		cifsndoduration optional	Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values: • "default" , • "medium" , • "low"
propagate-mailbox-enabled		boolean optional	Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable
read-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable
write-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable

Element definition: **cifsndoduration**

[top]

CIFS NDO outage duration Possible values:

- "default" ,
- "medium" ,
- "low"

[none]

Element definition: **disk-uid**

[top]

Disk Unique Identifier

[none]

Element definition: **giveback-options**

[top]

Giveback Options

Name	Range	Type	Description
auto-giveback-after-panic-enabled		boolean optional	Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
auto-giveback-override-vetoes-enabled		boolean optional	Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable
autogiveback-delay	**[0..600]**	integer optional	Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable
check-partner-enabled		boolean optional	Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable
giveback-attempts-count	**[2..10]**	integer optional	Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable
giveback-attempts-interval	**[1..90]**	integer optional	Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable

Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

Element definition: **hatype**

[top]

none|shared_storage|non_shared_storage Possible values:

- "none" - None,
- "shared_storage" - Shared storage HA configuration,
- "non_shared_storage" - Non-shared storage HA configuration

[none]

Element definition: **mailbox-state**

[top]

State of mailbox disks owned by the node. Possible values are:

- mbx_status_nodisks
- mbx_status_uncertain
- mbx_status_stale
- mbx_status_conflicted
- mbx_status_old_version
- mbx_status_not_found
- mbx_status_wrong_state
- mbx_status_backup

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **reason-takeover-not-possible**

[top]

Reason why takeover is not possible.

- not_initialized - Controller Failover not initialized
- non_ha_mode - Controller is in non-HA mode
- disabled - Controller Failover takeover disabled
- mailbox_invalid - Partner mailbox disks not accessible or invalid
- mailbox_uninit - Partner mailbox status uninitialized
- fm_version_mismatch - Failover monitor version mismatch
- partner_disabled - Takeover disabled by partner
- operator_deny - Takeover disabled by operator
- nvram_mismatch - NVRAM size mismatch
- version - Version mismatch
- ic_error - Interconnect error
- booting - Partner booting
- shelf_hot - Disk shelf is too hot
- partner_revert_in_progress - Partner is performing revert
- local_revert_in_progress - Revert is in progress
- partner_takeover - Partner is attempting takeover
- local_takeover - Already in takeover mode
- halt_no_takeover - Partner halted in notakeover mode
- log_unsync - NVRAM log unsynchronized
- unknown - No takeover due to unknown reason
- waiting_for_partner - Waiting for partner to recover
- low_memory - Low memory condition
- halting - Local halt in progress
- mailbox_uncertain - Status of partner mailbox is uncertain

no_auto_takeover - Automatic takeover is disabled
- disk_inventory_not_exchanged - Disk inventory information not received - from partner
- disk_inventory_mismatch_local - Local node missing some of partner node's file system disks
- pending_shutdown - Local node is shutting down

[none]

Element definition: **takeover-options**

[top]

Takeover Options

Name	Range	Type	Description
bypass-takeover-optimization-enabled		boolean optional	Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable
short-uptime-duration	**[0..86400]**	integer optional	Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable
takeover-detection-interval	**[0..2^32-1]**	integer optional	Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable
takeover-onfailure-enabled		boolean optional	A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable
takeover-onpanic-enabled		boolean optional	Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable
takeover-onreboot-enabled		boolean optional	Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable
takeover-onshort-uptime-enabled		boolean optional	Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable

Element definition: **takeover-reason**

[top]

FM Takeover Reason Possible values:

- "takeover_none" - None,
- "takeover_immediate" - Immediate takeover,
- "takeover_ndu" - NDU Takeover,
- "takeover_forced" - Forced Takeover,
- "takeover_disaster" - Disaster Takeover,
- "takeover_early" - Early Takeover,
- "takeover_operator_exp" - Takeover Operator Timeout,
- "takeover_post_failed" - Takeover POST Failed,

- "takeover_panic" - Takeover On Panic,
- "takeover_shortuptime" - Takeover On Short Uptime,
- "takeover_sparecore_exp" - Takeover On Sparecore Timeout,
- "takeover_reboot_exp" - Takeover On Reboot Timeout,
- "takeover_booting_exp" - Takeover On Booting Timeout,
- "takeover_firmware_exp" - Takeover On Firmware Timeout,
- "takeover_nfo_shutdown" - Takeover On Negotiated Failover,
- "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout,
- "takeover_mdp" - Takeover On MDP,
- "takeover_reboot" - Takeover On Reboot,
- "takeover_halt" - Takeover On Halt,
- "takeover_clam" - CLAM Initiated Takeover,
- "takeover_hwassist" - H/w assisted Takeover,
- "takeover_normal" - Operator initiated takeover,
- "takeover_comm_err" - Takeover On Communication Error

[none]

APIs in Category: **cg**

cg-commit
cg-delete
cg-start

cg-commit

[top]

Commits the snapshots that were started during the preceeding cg-start call that returned the cg-id key, and unfences the volumes that were fenced. If cg-commit API times out, then it means that either too many volumes were specified to the cg-start api or the timeout value for the cg-start api was very small. In this situation, the caller should try to perform the cg-start operation by specifying lesser volumes or by specifying higher timeout value.

Input Name	Range	Type	Description
cg-id		integer	Key to identify the ongoing cg operation.

Errno	Description
EONTAPI_EINVAL	
EVOLUMENOTONLINE	
ECGOFF	
ECGSNAPERR	
ECGERROR	
EONTAPI_ETIMEDOUT	
EVOLUMEBUSY	
ELOCALREVERT	
EVOLUMEREADONLY	
EONTAPI_EVOLOPNOTSUPP	
ENOSPC	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	

Vfiler-enabled
Yes

cg-delete

[top]

Deletes the snaps associated with a CG checkpoint in this filer. This API is deprecated as of Data ONTAP 8.2. Applications using this API should transition to snapshot-multidelete API as appropriate.

Input Name	Range	Type	Description
snapshot		string	The name of the snapshot that is deleted in each volume.
volume-uuids		UUID[]	The identities of the volumes in which to create the snapshot. The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529
volumes		volume-name[]	A list of volumes in this filer that is part of this CG operation.

Errno	Description
ECGOFF	
EONTAPI_EINVAL	
EVOLUMENOTONLINE	
ECGSNAPDELERR	
ECGERROR	

cg-start

[top]

Starts the checkpoint cycle for externally synchronized checkpoints in the filer. This operation fences the specified volumes and returns "success" (if successful). If the API returns "success", the call starts a snapshot create operation in these volumes. If the API returns "success", this operation SHOULD be followed by a call to cg-commit (below).

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
incoming-cg-id		integer optional	This is the common cg-id which the M-host generates internally to keep track of all the D-blades on which this API is executed. When this field is not present, D-blade will generates its own cg-id.
snapmirror-label		string optional	A human readable SnapMirror label to be attached with the consistency group snapshot copies. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshots that are created and will be used by the vaulting system to identify a vaulting scheme.
snapshot		string	The provided name of the snapshot that is created in each volume. This name is the unique identifier by which the calling agent identifies the snapshots that constitute a checkpoint. The maximum length is 255 characters. (= MAXNAMLEN)
snapshot-tags		d-snapshot-tag-info[] optional	The new tags to be set on the given consistency group snapshot copies.

timeout		string optional	Timeout selector. Possible vaules are "urgent", "medium" or "relaxed". If no value is specified, the default value is "medium". Following are the timeout values: "urgent" : 5 seconds "medium" : 7 seconds "relaxed" : 20 seconds
user-timeout		integer optional	User specified timeout value in seconds. This option can be set if the user wants to specify timeout value other than the default timeouts. The API will return failure if both 'timeout' and 'user-timeout' are specified. The minimum value for this field is equal to the "urgent" timeout. The maximum timeout which can be specified is 120 seconds.
volume-uuids		UUID[]	The identities of the volumes in which to create the snapshot. The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529
volumes		volume-name[]	A list of volumes in this filer that is part of this CG operation.

Output Name	Range	Type	Description
cg-id		integer	Identifier of the started cg-start operation. This identifier is used in the succeeding cg-commit call to identify the operation to be commited.
no-fence		boolean optional	This option disables volume fencing. The default value is "false"

Errno	Description
EONTAPI_EINVAL	
EONTAPI_EAGAIN	
EVOLUMENOTONLINE	
EVOLUMEBUSY	
ECGERROR	
EONTAPI_ETIMEDOUT	
EVOLUMEBUSY	
ELOCALREVERT	
EDUPLICATEDSID	
EVOLUMEREADONLY	
EVOLUMEBUSY	
EONTAPI_EVOLOPNOTSUPP	

Vfiler-enabled
Yes

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

APIs in Category: **cifs**

cifs-branchcache-create
cifs-branchcache-flush
cifs-branchcache-get
cifs-branchcache-get-iter
cifs-branchcache-hash
cifs-branchcache-hash-stat
cifs-branchcache-modify
cifs-branchcache-remove
cifs-branchcache-set-key
cifs-cache-settings-get
cifs-cache-settings-modify
cifs-character-mapping-create
cifs-character-mapping-destroy
cifs-character-mapping-get-iter
cifs-character-mapping-modify
cifs-check-server-get-iter
cifs-connection-get-iter
cifs-domain-discovered-servers-get-iter
cifs-domain-discovered-servers-reset
cifs-domain-name-mapping-search-add
cifs-domain-name-mapping-search-get-iter
cifs-domain-name-mapping-search-modify
cifs-domain-name-mapping-search-remove
cifs-domain-password-schedule-get-iter
cifs-domain-password-schedule-modify
cifs-domain-preferred-dc-add
cifs-domain-preferred-dc-get-iter
cifs-domain-preferred-dc-remove
cifs-domain-server-discovery-mode-get
cifs-domain-server-discovery-mode-get-iter
cifs-domain-server-discovery-mode-modify

This set of APIs allows managing CIFS configuration.

cifs-domain-trusts-get-iter
cifs-domain-trusts-rediscover
cifs-home-directory-get-iter
cifs-home-directory-modify
cifs-home-directory-search-path-add
cifs-home-directory-search-path-delete
cifs-home-directory-search-path-get-iter
cifs-home-directory-search-path-remove
cifs-home-directory-search-path-reorder
cifs-homedir-path-get-for-user
cifs-homedir-paths-get
cifs-homedir-paths-set
cifs-list-config
cifs-local-group-create
cifs-local-group-delete
cifs-local-group-get-iter
cifs-local-group-members-add-members
cifs-local-group-members-get-iter
cifs-local-group-members-remove-members
cifs-local-group-modify
cifs-local-group-rename
cifs-local-user-create
cifs-local-user-delete
cifs-local-user-get-iter
cifs-local-user-membership-get-iter
cifs-local-user-modify
cifs-local-user-rename
cifs-local-user-set-password
cifs-nbalias-names-get
cifs-nbalias-names-set
cifs-nbtstat-get-iter
cifs-options-get-iter
cifs-options-modify
cifs-password-change
cifs-password-reset
cifs-preferred-dc-check-get-iter
cifs-privilege-add-privilege
cifs-privilege-get-iter

cifs-privilege-remove-privilege
cifs-privilege-reset-privilege
cifs-security-get-iter
cifs-security-modify
cifs-server-add-netbios-aliases
cifs-server-create
cifs-server-delete
cifs-server-get-iter
cifs-server-modify
cifs-server-remove-netbios-aliases
cifs-server-start
cifs-server-stop
cifs-session-close
cifs-session-file-close
cifs-session-file-get-iter
cifs-session-get-iter
cifs-session-list-iter-end
cifs-session-list-iter-next
cifs-session-list-iter-start
cifs-setup
cifs-setup-create-group-file
cifs-setup-create-passwd-file
cifs-setup-ou-list-iter-end
cifs-setup-ou-list-iter-next
cifs-setup-ou-list-iter-start
cifs-setup-site-list-iter-end
cifs-setup-site-list-iter-next
cifs-setup-site-list-iter-start
cifs-setup-verify-name
cifs-setup-verify-passwd-and-group
cifs-share-access-control-create
cifs-share-access-control-delete
cifs-share-access-control-get-iter
cifs-share-access-control-modify
cifs-share-ace-delete
cifs-share-ace-set
cifs-share-acl-list-iter-end
cifs-share-acl-list-iter-next
cifs-share-acl-list-iter-

start
cifs-share-add
cifs-share-change
cifs-share-create
cifs-share-delete
cifs-share-get-iter
cifs-share-list-iter-end
cifs-share-list-iter-next
cifs-share-list-iter-start
cifs-share-modify
cifs-start
cifs-status
cifs-stop
cifs-symlink-create
cifs-symlink-delete
cifs-symlink-get-iter
cifs-symlink-modify
cifs-top-iter-end
cifs-top-iter-next
cifs-top-iter-start
cifs-user-home-directory-path-get
cifs-user-home-directory-path-get-iter
cifs-users-and-group-local-group-members-get-iter
cifs-users-and-group-local-user-membership-get-iter
volume-charmap-get
volume-charmap-set

cifs-branchcache-create

[top]

Create and setup the BranchCache service.

Input Name	Range	Type	Description
hash-store-max-size		size optional	Maximum size the hash store can grow to.
hash-store-path		string	Path to the directory where hash files are stored.
operating-mode		string optional	The mode in which the BranchCache service will operate.
return-record		boolean optional	If set to true, returns the cifs-branchcache on successful creation. Default: false
server-key		string optional	BranchCache server key.
versions		cifs-bc-version-control[] optional	Versions of the BranchCache protocol that are supported.

Output Name	Range	Type	Description
result		cifs-branchcache optional	The cifs-branchcache created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

cifs-branchcache-flush

[top]

Flush (delete) all the BranchCache hashes that have been generated for a Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-get

[top]

Retrieve information about the BranchCache service.

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

Output Name	Range	Type	Description
attributes		cifs-branchcache	The attributes of the cifs-branchcache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-get-iter

[top]

Retrieve the per-Vserver BranchCache configurations for the cluster.

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

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

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

Errno	Description
EINTERNALERROR	

cifs-branchcache-hash

[top]

Force the generation of BranchCache hashes for a file or path.

Input Name	Range	Type	Description
path		string	Path of File or Directory to Hash
recurse		boolean optional	If set to 'true', hashes will be recursively computed for all files in the directory

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-hash-stat

[top]

Display the CIFS BranchCache statistics

Input Name	Range	Type	Description
include-filesize-stats		boolean optional	If true, it shows BranchCache hash stats of file sizes for which hashes were requested for. File sizes are <10K, 11K-100K, 101K-250K, 251K-1M, 1.1M-10M, 11M-100M, >100M. The default value of this is false.
include-flush-stats		boolean optional	If true, returns BranchCache hash stats like how many hashes were flushed in multiples of BranchCache hash timeout duration. The default value of this field is false.

Output Name	Range	Type	Description
filesize-more-than-100mb		integer optional	Number of files of size more than 100mb.
filesize-range-0kb-to-10kb		integer optional	Number of files of size less than equal to 10k for which hashes were asked for.
filesize-range-100kb-to-250kb		integer optional	Number of files of size more than 100kb and less than equal to 250kb for which hashes were asked for.
filesize-range-10kb-to-100kb		integer optional	Number of files of size more than 10kb and less than equal to 100kb for which hashes were asked for.
filesize-range-10mb-to-100mb		integer optional	Number of files of size more than 10mb and less than equal to 100mb for which hashes were asked for.
filesize-range-1mb-to-10mb		integer optional	Number of files of size more than 1mb and less than equal to 10mb for which hashes were asked for.
filesize-range-250kb-to-1mb		integer optional	Number of files of size more than 250kb and less than equal to 1mb for which hashes were asked for.
hashes-flashed-post-fifth-timeout		integer optional	Number of hashes flushed after fifth timeout.
hashes-flashed-post-first-timeout		integer optional	Number of hashes flushed in between first and second timeout.
hashes-flashed-post-fourth-timeout		integer optional	Number of hashes flushed in between fourth and fifth timeout.
hashes-flashed-post-second-timeout		integer optional	Number of hashes flushed in between second and third timeout.
hashes-flashed-post-third-timeout		integer optional	Number of hashes flushed in between third and fourth timeout.

Errno	Description
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-branchcache-modify

[top]

Modify the CIFS BranchCache service settings

Input Name	Range	Type	Description
flush-hashes		boolean optional	Delete Existing Hashes
hash-store-max-size		size optional	Maximum Size of the Hash Store
hash-store-path		string optional	Path to Hash Store
operating-mode		string optional	CIFS BranchCache Operating Modes
server-key		string optional	Encryption Key Used to Secure the Hashes
versions		cifs-bc-version-control[] optional	Supported BranchCache Versions

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-remove

[top]

Remove the BranchCache service

Input Name	Range	Type	Description
flush-hashes		boolean	Delete Existing Hashes

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-set-key

[top]

Sets the server secret for BranchCache.

Input Name	Range	Type	Description
server-secret		string	A binary string that provides cryptographic data used by the BranchCache content server to generate hashes. Content servers that are serving the same data and are expected to provide the same hash values must use the same key. After changing this value, any existing cached content will be identified as stale and retrieved from the content server again.

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-cache-settings-get

[top]

Get the CIFS name and SID cache configuration of the SVM

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

Output Name	Range	Type	Description
attributes		cifs-cache-settings-info	The attributes of the cifs-cache-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-cache-settings-modify

[top]

Modify the CIFS name and SID cache configuration of the specified SVM. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
is-propagation-enabled		boolean optional	Is Propagation Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	

Errno	Description
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-character-mapping-create

[top]

Create a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

Input Name	Range	Type	Description
mapping		string[]	The mapping for invalid characters in the format XX:XXXX.
return-record		boolean optional	If set to true, returns the cifs-character-mapping on successful creation. Default: false
volume		string	The name of the volume for which character mapping needs to be applied.

Output Name	Range	Type	Description
result		cifs-character-mapping optional	The cifs-character-mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-character-mapping-destroy

[top]

Delete a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

Input Name	Range	Type	Description
volume		string	The name of the volume for which character mapping needs to be applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-character-mapping-get-iter

[top]

Display a character mapping

Input Name	Range	Type	Description
desired-		cifs-character-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

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

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

Errno	Description
EINTERNALERROR	

cifs-character-mapping-modify

[top]

Modify a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

Input Name	Range	Type	Description
mapping		string[]	The mapping for invalid characters in the format XX:XXXX.
volume		string	The name of the volume for which character mapping needs to be applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-check-server-get-iter

[top]

Display the Status of Connectivity from Each Node to the CIFS Server for the Given Vserver

Input Name	Range	Type	Description
desired-		cifs-check-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

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

Output Name	Range	Type	Description
attributes-list		cifs-check-info[] optional	The list of attributes of check-server objects.
cifs-status		string	CIFS Server Status.
netbios-name		string	The NetBIOS Name of the CIFS Server.
next-tag		string optional	Tag for the next call. Not present when there are no more check-server objects to return.
node		string optional	The Node on Which the Command Will Be Run.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
server		string	The FQDN of the DC, CIFS Server Belongs to.
server-ip		string	The IP address of the DC, CIFS Server Belongs to.
site		string	The Site CIFS Server Belongs to.
status		string	Status of NETLOGON Connection from Node to the CIFS Server.
status-details		string	Time for Establishing NETLOGON Connection from Node to the CIFS Server.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	

cifs-connection-get-iter

[top]

Retrieve the list of the established CIFS connections.

Input Name	Range	Type	Description
desired-attributes		cifs-connection	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

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

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

Errno	Description
EINTERNALERROR	

cifs-domain-discovered-servers-get-iter

[top]

Retrieve the list of servers discovered by the cluster.

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

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

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

Errno	Description
EINTERNALERROR	

cifs-domain-discovered-servers-reset

[top]

Command to trigger re-discovery of servers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-domain-name-mapping-search-add

[top]

Add to the list of trusted domains for name-mapping search

Input Name	Range	Type	Description
trusted-domains		realm-name[]	Trusted Domains

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-name-mapping-search-get-iter

[top]

Retrieve the list of trusted domains for name-mapping search.

Input Name	Range	Type	Description
desired-attributes		cifs-domain-name-mapping-search optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		cifs-domain-	A query that specifies which objects to return. A query could be

query		name-mapping-search optional	specified on any number of attributes in the cifs-domain-name-mapping-search object. All cifs-domain-name-mapping-search objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

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

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-name-mapping-search-modify

[top]

Modify the list of trusted domains for name-mapping search

Input Name	Range	Type	Description
trusted-domains		realm-name[]	Trusted Domains

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-name-mapping-search-remove

[top]

Remove from the list of trusted domains for name-mapping search

Input Name	Range	Type	Description
trusted-domains		realm-name[] optional	Trusted Domains

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-password-schedule-get-iter

[top]

Iterate over a list of cifs-domain-password-schedule objects.

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

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

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-domain-password-schedule-modify

[top]

Modify the attributes of cifs-domain-password-schedule object.

Input Name	Range	Type	Description
is-schedule-enabled		boolean optional	Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled.
schedule-day-of-week		cron-day-of-week optional	This field specifies the day of week when the scheduled domain account password change occurs

schedule-randomized-minute	**[1..180]**	integer optional	This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day
schedule-time-of-day		time-of-day optional	This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts
schedule-weekly-interval	**[1..52]**	integer optional	This field specifies the number of weeks after which the scheduled domain account password change must occur

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-domain-preferred-dc-add

[top]

Add to a list of preferred domain controllers

Input Name	Range	Type	Description
domain		string	The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong.
preferred-dc		string[]	Preferred Domain Controllers
skip-config-validation		boolean	Skip Configuration Validation

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-preferred-dc-get-iter

[top]

Retrieve the list of preferred domain controllers associated with Active Directory domains.

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

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

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-preferred-dc-remove

[top]

Remove from a list of preferred domain controllers

Input Name	Range	Type	Description
domain		string	The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong.
preferred-dc		string[] optional	Preferred Domain Controllers

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-server-discovery-mode-get

[top]

Get the CIFS server domain discovery mode of a Vserver

Input Name	Range	Type	Description
desired-attributes		cifs-domain-server-discovery-mode-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cifs-domain-server-discovery-mode-info	The attributes of the cifs-domain-server-discovery-mode.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

cifs-domain-server-discovery-mode-get-iter

[top]

Iterate through the CIFS server domain discovery mode of the cluster

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

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

Errno	Description
EINTERNALERROR	

cifs-domain-server-discovery-mode-modify

[top]

Modify the CIFS server domain discovery mode of a Vserver

Input Name	Range	Type	Description
		cifs-domain-server-	Server discovery mode Possible values: • "all" - Discover all the servers in the domain.,

mode		discovery-mode optional	• "site" - Discover the servers local to the site., • "none" - Discover nothing. Expect admins to configure pref-dcs.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-trusts-get-iter

[top]

Retrieve the list of discovered trusted domains.

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

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

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-domain-trusts-rediscover

[top]

Command to trigger re-discovery of trusted domains.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-home-directory-get-iter

[top]

Displays CIFS home directory configurations

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

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

Errno	Description
EINTERNALERROR	

cifs-home-directory-modify

[top]

Modify CIFS home directory configurations

Input Name	Range	Type	Description
is-home-dirs-access-for-admin-enabled		boolean optional	Is home directory access is enabled to admin. Default value is true.
is-home-dirs-access-for-public-enabled		boolean optional	Is home directory access is enabled to public. Default value is false.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-home-directory-search-path-add

[top]

Add a path to the list of paths that will be searched to find a CIFS user's home directory.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-home-directory-search-path-delete

[top]

Delete a home directory search path. This API is deprecated in Data ONTAP 8.2 and later but retained for backwards compatibility. Use cifs-home-directory-search-path-remove instead of cifs-home-directory-search-path-delete.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-home-directory-search-path-get-iter

[top]

Iterate over a list of cifs-home-directory-search-path objects.

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

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

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

Errno	Description
EINTERNALERROR	

cifs-home-directory-search-path-remove

[top]

Remove a home directory search path.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-home-directory-search-path-reorder

[top]

Change the position of this path in the list of paths that will be searched to find a CIFS user's home directory.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.
to-position	**[0..2^32-1]**	integer	The target position this entry should be moved to, in the list of CIFS home directory search paths.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-homedir-path-get-for-user

[top]

Return path to the user's CIFS home directory if it exists.

Input Name	Range	Type	Description
user-name		string	Name of the user. If the filer is using the "mapped" CIFS home directory naming style, then a mapped Unix name is provided. For the domain naming style, a domain/user is provided. Otherwise the filer will expect the NT name for the user. The filer's CIFS home directory naming style can be obtained with the "options-get" api, using input parameter "name cifs.home_dir_namestyle".

Output Name	Range	Type	Description
homedir-path-user		string optional	A Unix-style path to the user's CIFS homedir directory, if it exists, for example: /vol/volName/users/joe.

Errno	Description
ESVCNOTAVAIL	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs

cifs-homedir-paths-get

[top]

Return the current list of paths to users' cifs home directories, if any.

Output Name	Range	Type	Description
homedir-paths		homedir-path-info[] optional	An array, one entry per each cifs home directory path.

Errno	Description
ESVCNOTAVAIL	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs-homedir-paths-set

[top]

Provides a list of CIFS home directory paths for the filer. Replaces the current list of paths in use by the filer. Note that supplying an empty path list causes the filer to delete any current entries.

Input Name	Range	Type	Description
force		boolean optional	If true, the new set of homedir paths will be put into use even if some user homedir connections will be broken. This can cause users with open files in their home directories to lose access to the files. A user can lose data if there are updates not yet committed to disk.
homedir-paths		homedir-path-info[] optional	An array, one entry per each cifs home directory path. note: homedir-path-info defined above

Output Name	Range	Type	Description
path-error		path-error-info[] optional	An array, one entry for each homedir path error detected. Note that normally the API will complete sucessfully and activate as many paths as possible even if some paths cannot be activated.

Errno	Description
ESVCNOTAVAIL	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs-list-config

[top]

This ZAPI is used to display the CIFS configuration.

Output Name	Range	Type	Description
AD-site		string optional	Active Directory site that the filer is in.
DC-connection		connection-info[]	Information on the Domain Controller's connection.

		optional	
DNS-domainname		string optional	FQDN of DNS domain.
LDAP-connection		connection-info[] optional	Information on the LDAP connection.
NetBIOS-domainname		string optional	NetBIOS domain name.
NetBIOS-servername		string	NetBIOS name of the server
Windows-type		string optional	Windows type: "NT4"
auth-type		string	String specifying the type of authentication, such as: "ad" Active Directory "nt4" Windows NT4 "workgroup" Workgroup "passwd" Password file, NIS or LDAP
domain-controller-functionality		cifs-functional-level optional	Domain controller functionality indicates the functional level of the DC.
domain-functionality		cifs-functional-level optional	Domain functionality enables features that will affect the entire domain and that domain only. It indicates the functional level of the domain.
forest-functionality		cifs-functional-level optional	Forest functionality enables features across all the domains within your forest. It indicates the functional level of the forest.
security-style		string	String specifying the security style, such as: "ntfs" NTFS "multiprotocol" Multiple Protocol

Errno	Description
ECIFSNOTCONFIGURED	
EDNSNOTENABLED	
EHOSTNOTFOUND	
ELDAPSVRNOTFOUND	
EONTAPI_ENOMEM	

Vfiler-enabled
Yes

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cifs

cifs-local-group-create

[top]

Create a single local group

Input Name	Range	Type	Description
description		string optional	The description of the local group

group-name		cifs-name	The name of the local group
return-record		boolean optional	If set to true, returns the cifs-local-group on successful creation. Default: false

Output Name	Range	Type	Description
result		cifs-local-group optional	The cifs-local-group created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-group-delete

[top]

Delete a single local group

Input Name	Range	Type	Description
group-name		cifs-name	The name of the local group

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-group-get-iter

[top]

Retrieve the list of local groups

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

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

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

Errno	Description
EINTERNALERROR	

cifs-local-group-members-add-members

[top]

Add local users or Active Directory users or groups to a local group

Input Name	Range	Type	Description
group-name		cifs-name	Group Name
member-names		cifs-name[]	Names of Users or Active Directory Groups to be Added

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-local-group-members-get-iter

[top]

Retrieve the list of local group members

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

tag		optional	the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

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

Errno	Description
EINTERNALERROR	

cifs-local-group-members-remove-members

[top]

Remove local users or Active Directory users or groups from a local group

Input Name	Range	Type	Description
group-name		cifs-name	Group Name
member-names		cifs-name[]	Names of Users or Active Directory Groups to be Removed

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-local-group-modify

[top]

Modify a description of a single local group

Input Name	Range	Type	Description
description		string optional	The description of the local group
group-name		cifs-name	The name of the local group

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-group-rename

[top]

Rename a local group

Input Name	Range	Type	Description
group-name		cifs-name	The name of the local group
new-group-name		cifs-name	New Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-local-user-create

[top]

Configure and create a local user, associated with a Vserver

Input Name	Range	Type	Description
description		string optional	The description of the local user
full-name		string optional	The full name of the local user
is-account-disabled		boolean optional	The local user account is disabled
user-name		cifs-name	The name of the local user
user-password		string	The password for the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-local-user-delete

[top]

Delete a single local user

Input Name	Range	Type	Description
user-name		cifs-name	The name of the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	

EVSERVER_OPERATION_NOT_PERMITTED	

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CIFS

cifs-local-user-get-iter

[top]

Retrieve the list of local users

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

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

Errno	Description
EINTERNALERROR	

cifs-local-user-membership-get-iter

[top]

Retrieve local users' membership information

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

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

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

Errno	Description
EINTERNALERROR	

cifs-local-user-modify

[top]

Modify a single local user

Input Name	Range	Type	Description
description		string optional	The description of the local user
full-name		string optional	Full name of the local user
is-account-disabled		boolean optional	The user account is disabled
user-name		cifs-name	The name of the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

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CIFS

cifs-local-user-rename

[top]

Rename a local user

Input Name	Range	Type	Description
new-user-name		cifs-name	New User Name
user-name		cifs-name	The name of the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-local-user-set-password

[top]

Set password for a local user

Input Name	Range	Type	Description
user-name		cifs-name	The name of the local user
user-password		string	The Password for a Local User

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-nbalias-names-get

[top]

Return the current list of NetBIOS alias names for the filer

Output Name	Range	Type	Description
nbalias-names		nbalias-name-info[] optional	An array, one entry for each NetBIOS alias name

Errno	Description
ESVCNOTAVAIL	
EONTAPI_EINVAL	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs

cifs-nbalias-names-set

[top]

Provides a list of NetBIOS alias names for the filer. The filer replaces the current list of aliases with with this list. Note that supplying an empty name list causes the filer to delete all current entries.

Output Name	Range	Type	Description
nbalias-names		nbalias-name-info[] optional	An array, one entry for each NetBIOS alias name note: nbalias-name_info defined above

Errno	Description
ESVCNOTAVAIL	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs

cifs-nbtstat-get-iter

[top]

Retrieve the NetBIOS Name Service statistics for Vservers in cluster.

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

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

Errno	Description
EINTERNALERROR	

cifs-options-get-iter

[top]

Iterate over a list of cifs-options objects.

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

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

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-options-modify

[top]

Modify the attributes of cifs-options object.

Input Name	Range	Type	Description
client-session-timeout	**[0..2^32-1]**	integer optional	This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected
default-unix-group		string optional	The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules.
default-unix-user		string optional	The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules.
		cifs-	This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Possible values:

file-system-sector-size		filesystem-sector-size optional	• "512" - Reported file system sector size to SMB clients is 512 bytes, • "4096" - Reported file system sector size to SMB clients is 4096 bytes
grant-unix-group-perms-to-others		boolean optional	This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is false.
guest-unix-user		string optional	This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user.
is-admin-users-mapped-to-root-enabled		boolean optional	This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true.
is-advanced-sparse-file-support-enabled		boolean optional	This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server.
is-advertise-dfs-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true.
is-client-dup-detection-enabled		boolean optional	This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true.
is-client-version-reporting-enabled		boolean optional	This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true.
is-copy-offload-direct-copy-enabled		boolean optional	This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true.
is-copy-offload-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true.
is-dac-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false.
is-exportpolicy-enabled		boolean optional	This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false.
is-fake-open-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true.
is-fsctl-file-level-trim-enabled		boolean optional	This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true.
is-hide-dotfiles-		boolean optional	This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default

enabled			value for this parameter is false.
is-inherit-modebits-with-nfsv4acl-enabled		boolean optional	This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false.
is-large-mtu-enabled		boolean optional	This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true.
is-local-auth-enabled		boolean optional	This optional parameter specifies whether CIFS local users can authenticate.
is-local-users-and-groups-enabled		boolean optional	This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster.
is-multichannel-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false.
is-nbns-enabled		boolean optional	This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false.
is-netbios-over-tcp-enabled		boolean optional	This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true.
is-path-component-cache-enabled		boolean optional	This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true.
is-path-component-cache-symlink-enabled		boolean optional	This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true.
is-read-only-delete-enabled		enable optional	This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Possible values: • "enabled" , • "disabled"
is-referral-enabled		boolean optional	This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false.
is-search-short-names-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false.
is-shadowcopy-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy.
is-share-enum-permission-check-enabled		boolean optional	This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares.

is-smb1-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false.
is-smb2-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true.
is-smb3-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true.
is-smb31-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true.
is-trusted-domain-enum-search-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user.
is-unix-extensions-enabled		boolean optional	This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false.
is-unix-nt-acl-enabled		boolean optional	This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style.
is-use-junctions-as-reparse-points-enabled		boolean optional	This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients.
map-sid-to-uid-on-set-owner		boolean optional	This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'.
max-connections-per-session	**[2..1024]**	integer optional	This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32.
max-credits	**[2..8192]**	integer optional	This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128.
max-file-write-zero-length	**[2^12..2^25]**	integer optional	This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data lengths between 4 KB and 32 MB. The default value for this option is 32 MB.
max-lifs-per-session	**[1..256]**	integer optional	This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256.
max-mpx	**[2..65535]**	integer optional	This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255.
max-opens-same-file-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000.
max-same-tree-connect-	**[0..2^32-1]**	integer	This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The

per-session		optional	default value for this option is 5000.
max-same-user-sessions-per-connection	**[0..2^32-1]**	integer optional	This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500.
max-watches-set-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500.
path-component-cache-entry-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds.
path-component-cache-max-entries	**[1000..1000000]**	integer optional	This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000.
path-component-cache-max-session-token-size	**[500..10000]**	integer optional	This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000.
path-component-cache-symlink-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds.
read-grants-execute		enable optional	On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Possible values: • "enabled" , • "disabled"
restrict-anonymous		anonymous-restriction-level optional	This optional parameter specifies what level of access will a non authenticated user get Possible values: • "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
shadowcopy-dir-depth	**[0..2^32-1]**	integer optional	This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy.
smb1-max-buffer-size	**[4356..65535]**	integer optional	This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535.
widelink-as-reparse-point-versions		cifs-dialects[] optional	This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Possible values: • "smb1" - SMB 1.0, • "smb2" - SMB 2.0,

			• "smb2_1" - SMB 2.1, • "smb3" - SMB 3.0, • "smb3_1" - SMB 3.1
win-name-for-null-user		string optional	This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session.
wins-servers		inet-address[] optional	List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-password-change

[top]

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

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-password-reset

[top]

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

Input Name	Range	Type	Description
admin-password		string	Account password for the admin-username.
admin-username		string	Username of a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of. This user is expected to be part of the same Windows Active Directory domain as the CIFS server. If the specified username is not part of the same domain but part of a domain that has a trust relationship with the CIFS server's domain, the username can be specified as ' @ ' where FQDN is the fully qualified domain name of the domain of which the user is a member.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-preferred-dc-check-get-iter

[top]

Display the Status of the Preferred-DCs configured for the Given Vserver

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

Output Name	Range	Type	Description
attributes-list		cifs-preferred-dc-check-info[] optional	The list of attributes of cifs-preferred-dc-check objects.
domain		string[]	Domain Name
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-preferred-dc-check objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.
server-ip		string[]	DC Address
status		service-state[]	DC Status
status-details		string[]	Status Details

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	

cifs-privilege-add-privilege

[top]

Add privileges to a local or Active Directory user or group

Input Name	Range	Type	Description
privileges		cifs-privilege-entries[]	Privileges
user-or-group-name		cifs-name	User or Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-privilege-get-iter

[top]

Retrieve the list of local groups

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

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

Errno	Description
EINTERNALERROR	

cifs-privilege-remove-privilege

[top]

Remove privileges from a local or Active Directory user or group

Input Name	Range	Type	Description
privileges		cifs-privilege-entries[]	Privileges
user-or-group-name		cifs-name	User or Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-privilege-reset-privilege

[top]

Reset privileges for a local or Active Directory user or group

Input Name	Range	Type	Description
user-or-group-name		cifs-name	User or Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-security-get-iter

[top]

Iterate over a list of cifs-security objects.

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

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

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-security-modify

[top]

Modify the security configuration of a CIFS server.

Input Name	Range	Type	Description
admin-password		string optional	The password of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled.
admin-username		string optional	The username of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled.
advertised-enc-types		cifskrbenctypes[] optional	This parameter determines which encryption types will be advertised to Kerberos. By default AES-256, AES-128, RC4 and DES will be advertised. Possible values: • "des" , • "rc4" , • "aes_128" , • "aes_256"
aes-enabled-for-netlogon-channel		boolean optional	This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false.
encryption-required-for-dc-connections		boolean optional	This parameter determines if encryption is required for connections to domain controllers.
is-aes-encryption-enabled		boolean optional	(DEPRECATED) This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is true.
is-password-complexity-required		boolean optional	This parameter determines whether password complexity is required for local users. By default this option is true.
is-signing-required		boolean optional	This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false.
is-smb-encryption-required		boolean optional	This parameter determines whether SMB encryption is required for incoming CIFS traffic. By default this option is false.
kerberos-clock-skew	**[0..2^32-1]**	integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock.
kerberos-kdc-timeout	**[0..2^32-1]**	integer optional	This parameter determines the timeout value in seconds for KDC connections.
kerberos-renew-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in days for which a ticket can be renewed.
kerberos-ticket-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication.
			This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Possible values:

lm-compatibility-level		lm-compatibility-level optional	• "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos, • "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos, • "ntlmv2_krb" - Accepts NTLMv2 and Kerberos, • "krb" - Accepts Kerberos only
referral-enabled-for-ad-ldap		boolean optional	This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false.
session-security-for-ad-ldap		ldap-security optional	This parameter determines the level of security required for LDAP communications. By default this option is none. Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
smb1-enabled-for-dc-connections		system-default-bool optional	(DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Possible values: • "false" , • "true" , • "system_default"
smb2-enabled-for-dc-connections		system-default-bool optional	This parameter determines if SMB version 2 is used for connections to domain controllers. Possible values: • "false" , • "true" , • "system_default"
try-channel-binding-for-ad-ldap		boolean optional	This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true.
use-ldaps-for-ad-ldap		boolean optional	This parameter determines whether to use LDAPS for Secure Active Directory LDAP connections. By default this option is false.
use-start-tls-for-ad-ldap		boolean optional	This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
ECIFS_SERVER_SMB_ENCRYPTION_WITHOUT_SMB3	
ECIFS_SMB3_ENCRYPTION_NOT_ENABLED	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_REALM_MODE	
E_CIFS_COMMAND_OPTION_CANNOT_MODIFY_IN_REALM_MODE	

cifs-server-add-netbios-aliases

[top]

Add NetBIOS aliases for the CIFS server name

Input Name	Range	Type	Description
netbios-aliases		netbios-name[]	List of NetBIOS Aliases

Errno	Description
ENBALIASMAXNUMREACHED	

cifs-server-create

[top]

Configure and setup CIFS services on a Vserver. If joining a domain, this command may take several minutes to complete.

Input Name	Range	Type	Description
admin-password		string optional	The password for the account used to add this CIFS server to the Active Directory.
admin-username		string optional	The username of the account used to add this CIFS server to the Active Directory.
administrative-status		service-state optional	CIFS Server Administrative Status Possible values: • "down" , • "up"
cifs-server		netbios-name	The NetBIOS name of the CIFS server.
comment		string optional	CIFS Server Description
default-site		string optional	The default site used by LIFs that do not have a site membership.
domain		string optional	The fully qualified domain name of the Windows Active Directory this CIFS server belongs to.
force-account-overwrite		boolean optional	If this is set and a machine account with the same name as specified in 'cifs-server' exists in the Active Directory, it will be overwritten and reused. The default value for this field is false.
keytab-uri		uri optional	Kerberos Keytab File URI
netbios-aliases		netbios-name[] optional	List of NetBIOS Aliases
organizational-unit		string optional	The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to.
realm		string optional	The Kerberos realm this CIFS server belongs to.
workgroup		netbios-name optional	The name of the workgroup this CIFS server belongs to

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
ECIFS_AD_ACCOUNT_ALREADY_EXISTS	
ENBALIASMAXNUMREACHED	

E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_CREATE_IN_DOMAIN_MODE	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_SERVER_AD_ADMINACCOUNT_ZEROLEN	

cifs-server-delete

[top]

Delete a CIFS server. If the admin-username and admin-password are not specified, the CIFS server's machine account will not be deleted from the Windows Active Directory domain. The deletion of the CIFS server will also delete the CIFS shares associated with it.

Input Name	Range	Type	Description
admin-password		string optional	Account password for the admin-username.
admin-username		string optional	A user account name that has sufficient privileges in the Windows Active Directory domain to delete the CIFS server's machine account.
force-account-delete		boolean optional	If this is set, the local CIFS configuration will be deleted irrespective of any communication errors. The default value for this field is false.
keytab-uri		uri optional	Kerberos Keytab File URI

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-server-get-iter

[top]

Retrieve the list of CIFS servers on the cluster and their basic configurations.

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

Output Name	Range	Type	Description
attributes-list		cifs-server-config[]	The list of attributes of cifs-server objects.

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

Errno	Description
EINTERNALERROR	

cifs-server-modify

[top]

Modify the basic properties of a CIFS server. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

Input Name	Range	Type	Description
admin-password		string optional	The password for the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified.
admin-username		string optional	The username of the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified.
administrative-status		service-state optional	CIFS Server Administrative Status. Possible values: • "down" , • "up"
cifs-server		netbios-name optional	The name of the CIFS server (up to 15 characters).
comment		string optional	CIFS Server Description
default-site		string optional	The default site used by LIFs that do not have a site membership.
domain		string optional	The fully qualified domain name of the Windows Active Directory this CIFS server belongs to. Example: cifs.domain.com
force-account-overwrite		boolean optional	If this is set and the domain is being modified, and a machine account with the same name as the current Vserver's CIFS server name exists in the Active Directory, it will be overwritten and reused. The default value for this field is false.
keytab-uri		uri optional	Kerberos Keytab File URI
ou		string optional	The organizational unit within the Active Directive domain to associate with the CIFS server.
workgroup		netbios-name optional	The name of the workgroup this CIFS server belongs to. If this input is not specified, it is not modified.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_MODIFY_IN_DOMAIN_MODE	

cifs-server-remove-netbios-aliases

[top]

Remove NetBIOS aliases

Input Name	Range	Type	Description
netbios-aliases		netbios-name[]	List of NetBIOS Aliases

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-server-start

[top]

Start a CIFS server on the specified Vserver. The CIFS server must already exist. To create a CIFS server, use cifs-server-create.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-server-stop

[top]

Stop a CIFS server on the specified Vserver. Note that established sessions will be terminated and their open files closed. Workstations with cached data will not be able to save those changes, which could result in data loss.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-session-close

[top]

Close an open CIFS session

Input Name	Range	Type	Description
address		ip-address optional	The ip address of the workstation from which the session is opened.
auth-mechanism		auth-mechanism optional	The authentication mechanism used to establish the session.
connection-id		integer optional	The connection that is used to establish the session.

continuously-available		cifs-ca-protection optional	The type of continuous avalability protection provided to the session.
is-session-signed		boolean optional	The status of SMB signing that is happening over the CIFS session.
lif-address		ip-address optional	The data lif that is used to establish the session.
node		node-name	The name of the node on which the session listing is done.
protocol-version		cifs-dialects optional	The CIFS protocol version that is used to establish the session.
session-id		integer optional	The unique identifier for the session.
smb-encryption-status		smb-encryption optional	The status of SMB encryption that is happening over the CIFS session.
unix-user		string optional	The name of the UNIX user for which the session is established.
windows-user		string optional	The name of the CIFS user for which the session is established.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-session-file-close

[top]

Close an open CIFS file.

Input Name	Range	Type	Description
connection-id		integer optional	The connection that is used to open the file.
file-id		integer optional	The unique identifier for the opened file.
node		node-name	The name of the node on which the file listing is done.
session-id		integer optional	The session under which file is opened.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-session-file-get-iter

[top]

Retrieve the list of the opened CIFS files.

Input Name	Range	Type	Description
		cifs-	Specify the attributes that should be returned. If not present, all

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

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

Errno	Description
EINTERNALERROR	

cifs-session-get-iter

[top]

Retrieve the list of the established CIFS sessions.

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

Output Name	Range	Type	Description
attributes-list		cifs-session[] optional	The list of attributes of cifs-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-session objects to return.

num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-session-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-session-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-session-list-iter-next

[top]

Returns items from a previous call to cifs-session-list-iter-start.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-session-list-iter-start.

Output Name	Range	Type	Description
cifs-sessions		cifs-session-info[]	An array, one entry per each cifs session.
records		integer	This tells you how many records are being returned from this particular call to cifs-session-list-iter-next. When this value is 0, you have retrieved everything. Range: [0..2^32-1].

Vfiler-enabled
Yes

License
cifs

cifs-session-list-iter-start

[top]

Gives information on current CIFS activity. Without arguments, it returns a summary of information about the filer and lists the users who are connected to the filer.

Input Name	Range	Type	Description
host		string optional	IP address/machine name of the user's client machine.
protocol		string optional	Filters the information on the basis of protocol version specified. When 'smb' is specified as the argument, this API retrieves information about only SMB 1.0 sessions. When 'smb2' is specified as the argument, this API retrieves information about only SMB 2.0 sessions. If this option is not specified, then information about both SMB 1.0 and SMB 2.0 sessions is retrieved.
user		string optional	User name. If user is specified , this api returns information about the specified user, along with the names and access level of files that the user has opened. This api returns information about all the users, if the user is specified as '*' or is not specified.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-session-list-iter-next.

Errno	Description
EAPILICENSE	
ESERVICEDISABLED	
ESVCNOTAVAIL	

Vfiler-enabled
Yes

License
cifs

cifs-setup

[top]

Configures the filer's CIFS service. The CIFS service will start automatically once this call completes successfully.

Input Name	Range	Type	Description
auth-type		string	The authentication style that determines the method by which clients will be authenticated when connecting to this CIFS server. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad.
domain-name		string optional	The name of the domain that the CIFS server will join. This can be the NetBIOS or fully qualified domain name. Examples: cifsdomain, cifs.domain.com
login-password		string optional encrypted	The password for login-user.

login-user		string optional	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username
ou-name		string optional	The distinguished name of the organizational unit that the CIFS service will become a member of. This value must be one of the cifs-setup-ous retrieved from a call to the cifs-setup-container-list-iter APIs. By default, the filer will join the 'CN=Computers' organizational unit. Note: This information is only used when the auth-type is 'ad'.
pdc-ip-address		ip-address optional	If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'.
security-style		string	The security style determines whether or not the CIFS service will support multiprotocol access. These styles are subject to change in a future release. Possible values: ntfs, multiprotocol
server-name		string	The resulting CIFS server name.
site-name		string optional	The name of the site that the CIFS service will become a member of. This value must be one of the cifs-setup-sites retrieved from a call to the cifs-setup-container-list-iter APIs. If a default-site was returned, it is the recommended choice. Sites will be ignored if this value is left blank. Note: This information is only used when the auth-type is 'ad'.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	
ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	
ECIFS_PASSWD_AND_GROUP_REQUIRED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-create-group-file

[top]

Creates a basic /etc/group file. Note: This will overwrite an existing /etc/group file. See cifs-setup-verify-passwd-and-group for more information.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	
ECIFS_SETUP_CANNOT_WRITE	

Vfiler-enabled
Yes

License
cifs

cifs-setup-create-passwd-file

[top]

Creates a basic /etc/passwd file including a root user with the specified password. Note: This will overwrite an existing /etc/passwd file. See cifs-setup-verify-passwd-and-group for more information.

Input Name	Range	Type	Description
default-root-password		string encrypted	The password given to a locally defined root user which may be used in the event that other authentication services are unavailable. This will be defined in the filer's local /etc/passwd file.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	
ECIFS_SETUP_CANNOT_WRITE	

Vfiler-enabled
Yes

License
cifs

cifs-setup-ou-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-setup-ou-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-setup-ou-list-iter-next

[top]

Returns items from a previous call to cifs-setup-ou-list-iter-start

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-setup-ou-list-iter-start.

Output Name	Range	Type	Description
cifs-setup-ous		cifs-setup-ou[]	An array, one entry per each joinable organizational unit.
records		integer	This tells you how many records are being returned from this particular call to cifs-setup-ou-list-iter-next. When this value is 0, you have retrieved everything.

Vfiler-enabled
Yes

License
cifs

cifs-setup-ou-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-ou-list-iter-next. For more information regarding Active Directory organizational units and their use, please reference Microsoft's Active Directory documentation.

Input Name	Range	Type	Description
domain-name		string	The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com
login-password		string encrypted	The password for login-user.
login-user		string	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-setup-ou-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-setup-ou-list-iter-next.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	
ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-site-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-setup-site-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-setup-site-list-iter-next

[top]

Returns items from a previous call to cifs-setup-site-list-iter-start

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-setup-site-list-iter-start.

Output Name	Range	Type	Description
		cifs-	

cifs-setup-sites		setup-site[]	An array, one entry per each joinable organizational unit.
default-site		string optional	If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead.
records		integer	This tells you how many records are being returned from this particular call to cifs-setup-site-list-iter-next. When this value is 0, you have retrieved everything.

Vfiler-enabled
Yes

License
cifs

cifs-setup-site-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-site-list-iter-next. For more information regarding Active Directory sites and their use, please reference Microsoft's Active Directory documentation.

Input Name	Range	Type	Description
domain-name		string	The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com
login-password		string encrypted	The password for login-user.
login-user		string	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username

Output Name	Range	Type	Description
default-site		string optional	If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead.
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-setup-site-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-setup-site-list-iter-next.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	

ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-verify-name

[top]

Determines whether or not a particular CIFS server name is already in use on the network and a specified domain.

Input Name	Range	Type	Description
auth-type		string	The authentication style that will be used in a subsequent call to cifs-setup. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad.
domain-name		string	The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com
login-password		string optional encrypted	The password for login-user.
login-user		string optional	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username
pdc-ip-address		ip-address optional	If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'.
server-name		string	The NetBIOS CIFS server name that will be verified. Example: cifsserver

Output Name	Range	Type	Description
is-in-domain		boolean	Returns 'true' if the name exists in the domain, otherwise returns 'false'. For 'ad'-style domains, if an entry exists a warning should be provided. For 'nt4'-style domains, an entry must exist or cifs-setup will fail.
is-in-use		boolean	Returns 'true' if the name is in use on the network, otherwise returns 'false'.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	

EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	
ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-verify-passwd-and-group

[top]

Determines whether or not the /etc/passwd and /etc/group files exist, which would be used in the event that the configured CIFS authentication method fails.

Output Name	Range	Type	Description
group-file-exists		boolean	Returns 'true' if the /etc/group file exists, otherwise returns 'false'.
passwd-file-exists		boolean	Returns 'true' if the /etc/passwd file exists, otherwise returns 'false'.
required		boolean	Returns 'true' if the /etc/passwd and /etc/group files would be required before running the cifs-setup API. cifs-setup will require these files if neither LDAP nor NIS are enabled, as they will be used as a backup authentication method should the primary method (i.e. domain authentication) become unavailable.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-access-control-create

[top]

Add permissions for a user or group for a defined CIFS share.

Input Name	Range	Type	Description
permission		cifs-access-perms	The access rights that the user or group has on the defined CIFS share. Possible values: • "no_access" - No access, • "read" - Read, • "change" - Change, • "full_control" - Full Control, • "custom" - Custom
return-record		boolean optional	If set to true, returns the cifs-share-access-control on successful creation. Default: false
share		string	The CIFS share for which the permissions are defined.
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string	The user or group name for which the permissions are listed.
winsid		windows-sid optional	The Windows SID for the user or group for which the permission is defined.

Output Name	Range	Type	Description
result		cifs-share-access-control optional	The cifs-share-access-control created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

cifs-share-access-control-delete

[top]

Remove permissions for a user or group on a defined CIFS share.

Input Name	Range	Type	Description
share		string	The CIFS share for which the permissions are defined.
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string	The user or group name for which the permissions are listed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-share-access-control-get-iter

[top]

Retrieve the list of permissions on defined CIFS shares.

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

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

Errno	Description
EINTERNALERROR	

cifs-share-access-control-modify

[top]

Modify the permissions for a user or group on a defined CIFS share.

Input Name	Range	Type	Description
permission		cifs-access-perms optional	The access rights that the user or group has on the defined CIFS share. Possible values: • "no_access" - No access, • "read" - Read, • "change" - Change, • "full_control" - Full Control, • "custom" - Custom

share		string	The CIFS share for which the permissions are defined.
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string	The user or group name for which the permissions are listed.
winsid		windows-sid optional	The Windows SID for the user or group for which the permission is defined.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-share-ace-delete

[top]

Deletes the access control entry of the given share or the unix group. This API is equivalent to "cifs access [-g] " CLI.

Input Name	Range	Type	Description
is-unixgroup		boolean optional	This filter is used to tell that the access rights of the unix group have to be deleted. If its value is true, uinx-group-name needs to be provided. Otherwise it fails with the reason "group-name missing". The default value of this is false.
share-name		string	CIFS share name. It specifies name of the share of which the access rights have to be deleted. This is a case insensitive field. The maximum size of the share name is 256 characters.
unix-group-name		string optional	Name of the unix group. This field specifies the unix group of which the access rights to be deleted. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group "
user-name		string optional	Name of the user. This API deletes the access rights of the specified user. This is a case sensitive field. The format of the field is . If specified user does not exist, It fails with the reason "Unknown user ".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
ESVCDISABLED	
EAPILICENSE	

Vfiler-enabled
Yes

License
cifs

cifs-share-ace-set

[top]

Sets the ace to the share for the given user or unix group. This API is equivalent to "cifs access [-g] " CLI.

Input Name	Range	Type	Description
access-rights		string	Access rights to be set to the above share and user. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control"
is-unixgroup		boolean optional	This filter is used to tell that the access rights are to be set to the unix group. If its value is true, unix-group-name needs to be provided. Otherwise API fails with the reason "group-name missing". The default value of this is false.
share-name		string	CIFS share name. It specifies name of the share to which the access rights have to be set. This is a case insensitive field. The maximum size of the share name is 256 characters.
unix-group-name		string optional	Name of the unix group. This field specifies the unix group to which the access rights are to be set. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group : ".
user-name		string optional	Name of the user. This API sets the access rights to the specified user. This is a case sensitive field. The format of the field . If specified user does not exist, It fails with the reason "Unknown user: ".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
ESVCDISABLED	
EAPILICENSE	

Vfiler-enabled
Yes

License
cifs

cifs-share-acl-list-iter-end

[top]

Terminates a list iteration and cleans up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from the previous cifs-share-acl-list-iter-start

Vfiler-enabled
Yes

License

cifs

cifs-share-acl-list-iter-next

[top]

Returns items from a previous call to cifs-share-acl-list-iter-start.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range:[0..2^32-1]
tag		string	Tag from the previous cifs-share-acl-list-iter-start

Output Name	Range	Type	Description
cifs-share-acls		cifs-share-acl-info[]	An array, one entry per each cifs share.
records		integer	This tells you how many records are being returned from this particular call to cifs-share-acl-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1]

Vfiler-enabled
Yes

License
cifs

cifs-share-acl-list-iter-start

[top]

Gives information about one or more shares acl.

Input Name	Range	Type	Description
share-name		string optional	Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified pattern are listed.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-share-acl-list-iter-next. Range:[0..2^32-1]
tag		string	Tag to be used in subsequent calls to cifs-share-acl-list-iter-next

Errno	Description
EINVALIDINPUTERROR	
EAPIERROR	
ESVCNOTAVAIL	
EINTERNALERROR	

ESVCDISABLED	
EAPILICENSE	

Vfiler-enabled
Yes

License
cifs

cifs-share-add

[top]

Creates a new CIFS share rooted at the specified path.

Input Name	Range	Type	Description
caching		string optional	If specified, the following is done based on the value of the string: "no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
comment		string optional	If specified, gives description of the new share. CIFS clients see this description when browsing the filer's shares. If not specified, the description is blank.
dir-umask		integer optional	If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask".
file-umask		integer optional	If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask".
forcegroup		string optional	If specified, provides name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If it is an empty string or else not specified, then files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file.
is-access-based-enum		boolean optional	If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
is-browse		boolean optional	If true or not specified, shares are visible to browsing clients and can be enumerated (e.g. "net view", SrvMgr, AD).
is-namespace-caching-allowed		boolean optional	If true, namespace caching is enabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance.
is-symlink-strict-security		boolean optional	If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the

			symbolic link's destination.
is-vscan		boolean optional	If true or not specified, virus scan is done when clients open files on this share, else no virus scan is done.
is-vscanread		boolean optional	If true or not specified, virus scan is done when clients open files on this share for read access, else no virus scan is done for read access on this share.
is-widelink		boolean optional	If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false or not specified, widelinks in the share are disabled.
maxusers		integer optional	If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. If not specified, the filer does not impose a limit on the number of connections to the share.
path		string	Full path name of the directory on the filer corresponding to the root of the new share.
share-name		string	Name of the share to be added. The name cannot exceed 12 characters for DOS-style shares and 256 characters for others.
umask		integer optional	If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file or directory. If not specified, the file mode creation mask of the share is 0. This field is ignored when both dir-umask and file-umask are present.

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESVCDISABLED	
ESVCNOTAVAIL	
ECIFSSHARINGVIOLATION	
EVOLUMEINUSE	
EONTAPI_ENOMEM	
ESHARETOOMANY	
ESHAREEXISTS	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-change

[top]

Changes settings of one or more CIFS shares at any time, even if the shares are in use.

Input Name	Range	Type	Description
			If specified, the following is done based on the value of the string:

caching		string optional	"no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "manual_caching": allow users on Windows clients to manually select files to be cached. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
comment		string optional	If specified, changes description of the share. CIFS clients see this description when browsing the filer's shares. Specifying an empty string clears the previous description.
dir-umask		integer optional	If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask". Specifying an empty string resets (removes) this dir-umask.
file-umask		integer optional	If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask". Specifying an empty string resets (removes) this file-umask.
forcegroup		string optional	If specified, changes name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If the string is empty, files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file.
is-access-based-enum		boolean optional	If true Access Based Enumeration (ABE) is enabled, if false it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
is-browse		boolean optional	If true or undefined, share is visible to browsers and can be enumerated.
is-namespace-caching-allowed		boolean optional	If true, namespace caching is enabled on the share. If false, namespace caching is disabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance.
is-symlink-strict-security		boolean optional	If true, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the symbolic link's destination.
is-vscan		boolean optional	If true, virus scan is done when clients open files on this share, else virus scan is not done.
is-vscanread		boolean optional	If true, virus scan is done when clients open files on this share for read access, else virus scan is not done for read access.
is-widelink		boolean optional	If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false, widelinks in the share are disabled.
maxusers		integer optional	If specified, changes the maximum number of simultaneous connections to the new share. It must be a positive number or else zero, in which case no limit is imposed on the number of connections to the share.
share-name		string	If fully specified, it's the name of the existing share to be changed. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are to be changed.
			If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions

umask		integer optional	setting of a newly created file or directory. Specifying a zero value resets (removes) the file mode creation mask. This field is ignored when both dir-umask and file-umask are present.

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESVCDISABLED	
ESVCNOTAVAIL	
EONTAPI_ENOMEM	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-create

[top]

Creates a new CIFS share rooted at the specified path.

Input Name	Range	Type	Description
attribute-cache-ttl	**[0..2^32-1]**	integer optional	The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400.
comment		string optional	This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares.
dir-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
file-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the

			second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
force-group-for-create		string optional	If specified, all files created by CIFS users in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. By default this option will be disabled.
is-path-validation-enabled		boolean optional	This optional parameter specifies whether the CIFS Share Path validation is enabled or not. The default value for this parameter is true.
max-connections-per-share	**[1..2^32-1]**	integer optional	If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. The default value is 4294967295.
offline-files-mode		string optional	Mode of the offline file for the CIFS share. The default value is manual. Possible values: • "none" - Clients are not permitted to cache files for offline access., • "manual" - Clients may cache files that are explicitly selected by the user for offline use., • "documents" - Clients may automatically cache files that are used by the user for offline access., • "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
path		string	The file system path that is shared through this CIFS share.
return-record		boolean optional	If set to true, returns the cifs-share on successful creation. Default: false
share-name		string	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?"*
			The list of properties for this CIFS share. Possible values: • "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share., • "browsable" - This specifies that the share can be browsed by Windows clients., • "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients., • "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify., • "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property can only be set during the create process and cannot be altered later. • "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance. • "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache

share-properties		cifs-share-properties[] optional	technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. • "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups. • "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share. • "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. • "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers. • "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share. • "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.
symlink-properties		cifs-share-symlink-properties[] optional	This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values: • "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write, • "hide" (DEPRECATED) Hide both symlinks and wide links, • "read_only" (DEPRECATED) Enable symlinks for read-only, • "symlinks" Enable symlinks only for read-write, DFS is not advertised, • "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised, • "disable" Disable both local symlinks and wide links, DFS is not advertised • "no_strict_security" Allow clients to follow symlinks beyond share boundaries
vscan-fileop-profile		vscan-fileop-profile optional	Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values: • "no_scan" - Virus scans are never triggered for accesses to this share, • "standard" - Virus scans can be triggered by open, close, and rename operations, • "strict" - Virus scans can be triggered by open, read, close, and rename operations, • "writes_only" - Virus scans can be triggered only when a

			file that has been modified is closed.

Output Name	Range	Type	Description
result		cifs-share optional	The cifs-share created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

cifs-share-delete

[top]

Deletes the specified CIFS share.

Input Name	Range	Type	Description
share-name		string	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?"*

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESVCDISABLED	
ESVCNOTAVAIL	
EINTERNALERROR	
EOBJECTNOTFOUND	

Vfiler-enabled
Yes

License
cifs

cifs-share-get-iter

[top]

Gives information about one or more CIFS shares.

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

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

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

Errno	Description
EINTERNALERROR	

cifs-share-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-share-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-share-list-iter-next

[top]

Returns items from a previous call to cifs-share-list-iter-start

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-share-list-iter-start.

Output Name	Range	Type	Description
cifs-shares		cifs-share-info[]	An array, one entry per each cifs share.
			This tells you how many records are being returned from this particular

records		integer	call to cifs-share-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1]

Vfiler-enabled
Yes

License
cifs

cifs-share-list-iter-start

[top]

Gives information about one or more shares, the results of which are retrieved by using cifs-share-list-iter-next.

Input Name	Range	Type	Description
share-name		string optional	Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are listed.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-share-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-share-list-iter-next.

Errno	Description
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESERVICEDISABLED	
ESVCNOTAVAIL	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-modify

[top]

Modifies settings of a CIFS share, even if the shares are in use.

Input Name	Range	Type	Description
			The lifetime of an entry in the file attribute cache, in seconds.

attribute-cache-ttl	**[0..2^32-1]**	integer optional	This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400.
comment		string optional	This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares.
dir-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
file-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
force-group-for-create		string optional	This optional parameter specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. You can disable this option by passing a null string "".
is-path-validation-enabled		boolean optional	This optional parameter specifies whether the CIFS Share Path validation is enabled or not.
max-connections-per-share	**[1..2^32-1]**	integer optional	If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number.
offline-files-mode		string optional	Mode of the offline file for the CIFS share. The default value is manual. Possible values: • "none" - Clients are not permitted to cache files for offline access., • "manual" - Clients may cache files that are explicitly selected by the user for offline use., • "documents" - Clients may automatically cache files that are used by the user for offline access., • "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
path		string optional	The file system path that is shared through this CIFS share.
share-name		string	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double

			quotes) and the characters \/[]:|<>+=;,?"*
share-properties		cifs-share-properties[] optional	The list of properties for this CIFS share. Possible values: • "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share., • "browsable" - This specifies that the share can be browsed by Windows clients., • "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients., • "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify., • "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property cannot be added or removed from existing share. • "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance. • "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. • "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups. • "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share. • "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. • "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers. • "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share. • "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.
			This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values:

symlink-properties		cifs-share-symlink-properties[] optional	• "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write, • "hide" (DEPRECATED) Hide both symlinks and wide links, • "read_only" (DEPRECATED) Enable symlinks for read-only, • "symlinks" Enable symlinks only for read-write, DFS is not advertised, • "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised, • "disable" Disable both local symlinks and wide links, DFS is not advertised • "no_strict_security" Allow clients to follow symlinks beyond share boundaries
vscan-fileop-profile		vscan-fileop-profile optional	Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values: • "no_scan" - Virus scans are never triggered for accesses to this share, • "standard" - Virus scans can be triggered by open, close, and rename operations, • "strict" - Virus scans can be triggered by open, read, close, and rename operations, • "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-start

[top]

Starts the CIFS service, usually after a previous call to cifs-stop as the CIFS service starts automatically when cifs-setup completes successfully or the system reboots.

Errno	Description
EAPILICENSE	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-status

[top]

Returns the running state of the CIFS service.

Output Name	Range	Type	Description
status		string	The current status of the CIFS service, which will be one of the following: STOPPED, STARTED, STOPPING, STARTING

Errno	Description
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-stop

[top]

Stops the CIFS service for all users or a particular workstation, if specified. Appropriate warning should be given to connected clients before calling this API, as it will immediately terminate those sessions regardless of their current state. See the cifs-sessions API for the list of clients that are currently connected.

Input Name	Range	Type	Description
workstation		string optional	The name or IP address of a workstation that will be disconnected from the CIFS service. Note that the CIFS service does not stop if this value is specified, it simply disconnects related sessions.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-symlink-create

[top]

Create a new CIFS symbolic link path mapping from a UNIX symlink to a target CIFS path. This symbolic link path mapping will be effective on symbolic links that have a prefix match with the value of 'unix-path'. e.g.: if the value of 'unix-path' is '/usr/local/' and there exists a symbolic link on the file

system at '/home/user/link' which points to '/usr/local/share/dest'. If a CIFS client accesses the symbolic link 'link', this entry of path mapping would have a prefix match '/usr/local/'. The CIFS client would be redirected to the location pointed to by this path mapping's 'cifs-server', 'share-name' and 'cifs-path' fields.

Input Name	Range	Type	Description
cifs-path		string	This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization.
cifs-server		string optional	This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address.
home-directory		boolean optional	This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false.
locality		cifs-symlink-locality optional	This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values: • "local" - Share on This VServer, • "widelink" - Share on Another CIFS Server, • "freelink" - Anywhere on This VServer (OBSOLETE)
return-record		boolean optional	If set to true, returns the cifs-symlink on successful creation. Default: false
share-name		string optional	This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization.
unix-path		string	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'.

Output Name	Range	Type	Description
result		cifs-symlink optional	The cifs-symlink created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	

Errno	Description
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-symlink-delete

[top]

Delete a CIFS symbolic link path mapping.

Input Name	Range	Type	Description
unix-path		string	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-symlink-get-iter

[top]

Retrieve the list of CIFS symbolic link path mappings.

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

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

Errno	Description

Errno	Description
EINTERNALERROR	

cifs-symlink-modify

[top]

Modify a CIFS symbolic link path mapping parameters.

Input Name	Range	Type	Description
cifs-path		string optional	This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization.
cifs-server		string optional	This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address.
home-directory		boolean optional	This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false.
locality		cifs-symlink-locality optional	This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values: • "local" - Share on This VServer, • "widelink" - Share on Another CIFS Server, • "freelink" - Anywhere on This VServer (OBSOLETE)
share-name		string optional	This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization.
unix-path		string	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-top-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-top-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-top-iter-next

[top]

Returns items from a previous call to cifs-top-iter-start.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-top-iter-start.

Output Name	Range	Type	Description
cifs-top		cifs-top-info[]	An array, one entry per cifs top.
records		integer	This tells you how many records are being returned from this particular call to cifs-top-iter-next. When this value is 0, you have retrieved everything.

Vfiler-enabled
Yes

License
cifs

cifs-top-iter-start

[top]

Display CIFS client statistics

Input Name	Range	Type	Description
			Specifies how the client statistics are to be averaged for display: "smooth": Use a smoothed average which is weighted towards recent behavior but takes into account previous history of the client. "now":

avgtype		string optional	Use a one-second sample taken immediately and no history is taken into account. "total": Use the total count of each statistic divided by the total time since sampling started. If the is-verbose option is also set, the totals are given without dividing by the sample time.
maxclients		integer optional	Specifies the maximum number of top clients to display (the default is 20).
sortgroup		string optional	If specified, the client statistics are sorted by the value of the string: "ops": Sort by the number of operations per second of any type. "reads": Sort by kbytes/sec of data in response to read requests. "writes": Sort by kbytes/sec of data written to the filer. "ios": Sort by the combined total of reads plus writes for each client. "suspicious": Sort by the number of "suspicious" events per second by each client.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next. Range:[0..2^32-1]
tag		string	Tag to be used in subsequent calls to cifs-session-list-iter-next.

Errno	Description
ECLIENTSTATSVFILER	
ECLIENTSTATSNOTENABLED	
ENOACTIVECLIENTS	

Vfiler-enabled
Yes

License
cifs

cifs-user-home-directory-path-get

[top]

Find the user's home directory based on user name

Input Name	Range	Type	Description
username		string	The name of CIFS user for which home directory path has to be found out.

Output Name	Range	Type	Description
out-username		string optional	Output User Name
path		string optional	The path of home directory for the specified user name.
share-name		string optional	The expanded share name for the user.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

cifs-user-home-directory-path-get-iter

[top]

Find the user's home directory based on user name

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

Output Name	Range	Type	Description
attributes-list		cifs-user-home-directory-path[] optional	The list of attributes of cifs-user-home-directory-path objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-user-home-directory-path objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.
out-username		string optional	Output User Name
path		string optional	The path of home directory for the specified user name.
share-name		string optional	The expanded share name for the user.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

cifs-users-and-group-local-group-members-get-iter

[top]

Retrieve the list of local group members

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

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

Errno	Description
EINTERNALERROR	

cifs-users-and-group-local-user-membership-get-iter

[top]

Retrieve local users' membership information

Input Name	Range	Type	Description
desired-attributes		cifs-users-and-group-local-user-membership optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-users-and-group-local-user-membership	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-user-membership object. All cifs-users-and-group-local-user-membership objects matching this query up to

		optional	'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

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

Errno	Description
EINTERNALERROR	

volume-charmap-get

[top]

Return charmap information for a specified volume.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to list the charmap information.

Output Name	Range	Type	Description
charmap		string optional	A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively.

Errno	Description
EVOLUMEDOESNOTEXIST	
EOPNOTSUPPORTED	
EVOLUMEBUSY	

volume-charmap-set

[top]

Set the character mapping on a volume

Input Name	Range	Type	Description
charmap		string optional	A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively.
volume		volume-	The name of the volume for which character mapping needs to be

		name	applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **anonymous-restriction-level** [top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

Element definition: **auth-mechanism** [top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

Element definition: **cifs-access-perms** [top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

Element definition: **cifs-branchcache**

[top]

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

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

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

Name	Range	Type	Description
hash-store-max-size		size optional	Maximum size the hash store can grow to. Attributes: optional-for-create, modifiable
hash-store-path		string optional	Path to the directory where hash files are stored. Attributes: required-for-create, modifiable
operating-mode		string optional	The mode in which the BranchCache service will operate. Attributes: optional-for-create, modifiable
server-key		string optional	BranchCache server key. Attributes: optional-for-create, modifiable
versions		cifs-bc-version-control[] optional	Versions of the BranchCache protocol that are supported. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-ca-protection**

[top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.

"Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

Element definition: **cifs-cache-settings-info**

[top]

Contains CIFS name and SID cache configuration information of a SVM When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

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

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

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
is-propagation-enabled		boolean optional	Is Propagation Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-character-mapping**

[top]

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

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

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

Name	Range	Type	Description
		string[]	The mapping for invalid characters in the format XX:XXXX. Attributes:

mapping		optional	required-for-create, modifiable
volume		string optional	The name of the volume for which character mapping needs to be applied. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Name on which the volume exists. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-check-info**

[top]

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

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

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

Name	Range	Type	Description
cifs-domain-ip-addr		string optional	The IP address of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable
cifs-domain-name		string optional	The FQDN of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable
cifs-netbios-name		string optional	The NetBIOS Name of the CIFS Server. Attributes: non-creatable, non-modifiable
cifs-server-site		string optional	The Site CIFS Server Belongs to. Attributes: non-creatable, non-modifiable
cifs-server-status		string optional	CIFS Server Status. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The Node on Which the Command Will Be Run. Attributes: key, non-creatable, non-modifiable
status		service-state optional	Status of NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable Possible values: • "down" , • "up"
status-details		string optional	Time for Establishing NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable
vserver-name		string optional	Vserver For Checking the CIFS Server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-connection**

[top]

Displays established CIFS connections When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

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

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

Name	Range	Type	Description
connection-id	**[0..2^32-1]**	integer optional	The unique identifier for the connection. Attributes: key, optional-for-create, non-modifiable
lif-ip		ip-address optional	The data lif that is used to establish the connection. Attributes: non-creatable, non-modifiable
network-context-id	**[0..2^32-1]**	integer optional	The network context id associated with the connection. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node on which the connection listing is done. Attributes: key, required-for-create, non-modifiable
session-id	**[0..2^64-1]**	integer[] optional	The sessions that are associated with this connection. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name on which the connection listing is done. Attributes: key, required-for-create, non-modifiable
workstation-ip		ip-address optional	The ip address of the workstation from which the connection is established. Attributes: non-creatable, non-modifiable
workstation-port	**[0..2^32-1]**	integer optional	The TCP port of the workstation through which the connection is established. Attributes: non-creatable, non-modifiable

Element definition: **cifs-dialects**

[top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

Element definition: **cifs-domain-discovered-servers**

[top]

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

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

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

Name	Range	Type	Description
address		inet-address optional	The IP address of the server that was discovered. Attributes: key, non-creatable, non-modifiable
dc-functional-level		cifs-domain-discovered-server-funclvl optional	DC Functional Level Attributes: non-creatable, non-modifiable Possible values: • "win2000" - WIN2000, • "unknown" - The DC functionality level is unknown, • "win2003" - WIN2003, • "win2008" - WIN2008, • "win2008r2" - WIN2008R2, • "win2012" - WIN2012, • "win2012r2" - WIN2012R2, • "win2016" - WIN2016, • "winthreshold" - WINTHRESHOLD
domain		string optional	The Active Directory domain that the discovered server is a member of. Attributes: key, non-creatable, non-modifiable
is-dc-read-only		boolean optional	Is DC Read Only Attributes: non-creatable, non-modifiable
name		string optional	The hostname of the server that was discovered. Attributes: key, non-creatable, non-modifiable
node		node-name optional	The name of the node on which server discovery was done. Attributes: key, non-creatable, non-modifiable
prefer-type		cifs-domain-server-prefer-type optional	The preference level of the server that was discovered. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The preference level of this server is unknown., • "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers., • "favored" - This server was marked as favored by the server discovery process by virtue of site membership., • "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it.
server-type		cifs-domain-discovered-server-type optional	The type of the server that was discovered. Attributes: key, non-creatable, non-modifiable Possible values: • "unknown" - The server type is not known, • "kerberos" - Kerberos server, • "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server, • "ms_dc" - Microsoft Domain Controller, • "ldap" - Lightweight Directory Access Protocol (LDAP) server
		cifs-domain-	The status of the connection to the server that was discovered. Attributes: non-creatable, non-modifiable Possible values: • "ok" - The connection to this server is usable.,

status		discovered-server-status optional	• "unavailable" - This server is currently unavailable for use., • "slow" - The connection to this server is usable but slow., • "expired" - The connection to this server has expired., • "undetermined" - A connection to this server has not been attempted., • "unreachable" - This server is currently unreachable.
vserver		vserver-name optional	The name of the Vserver which scopes the discovered servers. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-name-mapping-search**

[top]

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

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

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

Name	Range	Type	Description
trusted-domains		realm-name[] optional	The list of trusted domains used for name-mapping. Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-password-schedule**

[top]

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

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

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

Name	Range	Type	Description
is-schedule-enabled		boolean optional	Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled. Attributes: non-creatable, modifiable
schedule-day-of-week		cron-day-of-week	This field specifies the day of week when the scheduled domain account password change occurs Attributes: non-creatable, modifiable

		optional	
schedule-randomized-minute	**[1..180]**	integer optional	This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day Attributes: non-creatable, modifiable
schedule-time-of-day		time-of-day optional	This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts Attributes: non-creatable, modifiable
schedule-weekly-interval	**[1..52]**	integer optional	This field specifies the number of weeks after which the scheduled domain account password change must occur Attributes: non-creatable, modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-preferred-dc**

[top]

List of preferred domain controllers associated with an Active Directory domain, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

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

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

Name	Range	Type	Description
domain		string optional	The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. Attributes: key, required-for-create, non-modifiable
preferred-dc		inet-address[] optional	The list of preferred domain controller IP addresses. Attributes: required-for-create, non-modifiable
vserver		vserver-name optional	Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,
- "none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

Element definition: **cifs-domain-server-discovery-mode-info**

[top]

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

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

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
mode		cifs-domain-server-discovery-mode optional	Server discovery mode Attributes: required-for-create, modifiable Possible values: • "all" - Discover all the servers in the domain., • "site" - Discover the servers local to the site., • "none" - Discover nothing. Expect admins to configure pref-dcs.
vserver		vserver-name optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-trusts**

[top]

List of trusted domains discovered. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
home-domain		realm-name optional	The fully-qualified domain name of the Active Directory domain the CIFS server is joined to. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node on which discovery was done. Attributes: key, non-creatable, non-modifiable
trusted-domain		realm-name[] optional	A domain that has a trust relationship with the home domain. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The name of the Vserver which scopes the discovered trusted domains. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

Element definition: **cifs-functional-level**

[top]

Possible values are:

- "windows_2000"
- "windows_2003_with_mixed_domain"
- "windows_2003"
- "windows_2008"
- "windows_2008R2"
- "windows_8"

[none]

Element definition: **cifs-home-directory**

[top]

Handle cifs home directory related configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-home-dirs-access-for-admin-enabled		boolean optional	Is home directory access is enabled to admin. Default value is true. Attributes: optional-for-create, modifiable
is-home-dirs-access-for-public-enabled		boolean optional	Is home directory access is enabled to public. Default value is false. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-home-directory-search-path**

[top]

This is a list of CIFS Home Directory search paths. When a CIFS client connects to a home directory share, these paths are searched in the order indicated by the 'position' field to find the user's home directory. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
path		string optional	The file system path that will be searched for finding a CIFS user's home directory. Attributes: key, required-for-create, non-modifiable
position	**[1..1024]**	integer optional	The position of this entry in the list of paths that will be searched for finding a CIFS user's home directory. Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-group**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	The description of the local group Attributes: optional-for-create, modifiable
group-name		cifs-name optional	The name of the local group Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		cifs-name optional	The name of the local group Attributes: key, non-creatable, non-modifiable
member		cifs-name optional	The member of a local group Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-user**

[top]

List of local users, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	The description of the local user Attributes: optional-for-create, modifiable
full-name		string optional	Full name of the local user Attributes: optional-for-create, modifiable
is-account-disabled		boolean optional	The user account is disabled Attributes: optional-for-create, modifiable
user-name		cifs-name optional	The name of the local user Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
membership		cifs-name optional	The membership of the local user Attributes: non-creatable, non-modifiable
user-name		cifs-name optional	The name of the local user Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-name**

[top]

[none]

Element definition: **cifs-nbtstat**

[top]

Display NetBIOS Statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
nbt-mode		string optional	Mode in which the NetBIOS Name Service is configured. Possible values: 'p' - Point to Point, 'h' - Hybrid, 'm' - Mixed or 'b' - Broadcast. Attributes: non-creatable, non-modifiable
nbt-name-state		string optional	Registration State of NetBIOS Name. Possible values: 'must_register', 'must_unregister', 'wins', 'broadcast', 'name_released', 'wins_conflict', 'broadcast_conflict. Attributes: non-creatable, non-modifiable
nbt-scope		string optional	Scope is used as a name for the set of NetBIOS nodes that participate in an NBT virtual LAN. Attributes: non-creatable, non-modifiable
netbios-name		string optional	NetBIOS Name. Attributes: key, non-creatable, non-modifiable
netbios-suffix		string optional	A NetBIOS suffix is the 16th character of the 16-character NetBIOS name. The NetBIOS suffix is used by Microsoft Networking software to identify functionality installed on the registered device. Attributes: key, non-creatable, non-modifiable
		string	The name of the node on which nbtstat was done. Attributes: key,

node		optional	non-creatable, non-modifiable
registered-addresses		ip-address[] optional	List of interface IP Addresses for which the NetBIOS Name is registered. Attributes: non-creatable, non-modifiable
registered-type		string optional	Name registration type. Possible values: 'registered', 'active', 'permanent', 'group'. Attributes: non-creatable, non-modifiable
registration-time-left-minutes	**[0..2^32-1]**	integer optional	Time left in minutes for a name registered with WINS. Attributes: non-creatable, non-modifiable
vserver		string optional	The Vserver name on which nbtstat was done. Attributes: key, non-creatable, non-modifiable
wins-entries		wins-entry-info[] optional	Windows Internet Name Server (WINS) information

Element definition: **cifs-options**

[top]

The CIFS specific tunables that can be set on a Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-session-timeout	**[0..2^32-1]**	integer optional	This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected Attributes: optional-for-create, modifiable
default-unix-group		string optional	The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules. Attributes: optional-for-create, modifiable
default-unix-user		string optional	The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules. Attributes: optional-for-create, modifiable
file-system-sector-size		cifs-filesystem-sector-size optional	This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Attributes: optional-for-create, modifiable Possible values: • "512" - Reported file system sector size to SMB clients is 512 bytes, • "4096" - Reported file system sector size to SMB clients is 4096 bytes
grant-unix-group-perms-to-others		boolean optional	This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is

			false. Attributes: optional-for-create, modifiable
guest-unix-user		string optional	This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user. Attributes: optional-for-create, modifiable
is-admin-users-mapped-to-root-enabled		boolean optional	This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-advanced-sparse-file-support-enabled		boolean optional	This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server. Attributes: optional-for-create, modifiable
is-advertise-dfs-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-client-dup-detection-enabled		boolean optional	This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-client-version-reporting-enabled		boolean optional	This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-copy-offload-direct-copy-enabled		boolean optional	This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true. Attributes: optional-for-create, modifiable
is-copy-offload-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-dac-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-exportpolicy-enabled		boolean optional	This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-fake-open-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-fsctl-file-level-trim-enabled		boolean optional	This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-hide-dotfiles-enabled		boolean optional	This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-inherit-			

modebits-with-nfsv4acl-enabled		boolean optional	This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-large-mtu-enabled		boolean optional	This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-local-auth-enabled		boolean optional	This optional parameter specifies whether CIFS local users can authenticate. Attributes: optional-for-create, modifiable
is-local-users-and-groups-enabled		boolean optional	This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster. Attributes: optional-for-create, modifiable
is-multichannel-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-nbns-enabled		boolean optional	This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-netbios-over-tcp-enabled		boolean optional	This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-path-component-cache-enabled		boolean optional	This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-path-component-cache-symlink-enabled		boolean optional	This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-read-only-delete-enabled		enable optional	This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Attributes: optional-for-create, modifiable Possible values: • "enabled" , • "disabled"
is-referral-enabled		boolean optional	This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-search-short-names-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-shadowcopy-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable

is-share-enum-permission-check-enabled		boolean optional	This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares. Attributes: optional-for-create, modifiable
is-smb1-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false. Attributes: optional-for-create, modifiable
is-smb2-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-smb3-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-smb31-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-trusted-domain-enum-search-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user. Attributes: optional-for-create, modifiable
is-unix-extensions-enabled		boolean optional	This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-unix-nt-acl-enabled		boolean optional	This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style. Attributes: optional-for-create, modifiable
is-use-junctions-as-reparse-points-enabled		boolean optional	This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients. Attributes: optional-for-create, modifiable
map-sid-to-uid-on-set-owner		boolean optional	This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'. Attributes: optional-for-create, modifiable
max-connections-per-session	**[2..1024]**	integer optional	This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32. Attributes: optional-for-create, modifiable
max-credits	**[2..8192]**	integer optional	This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128. Attributes: optional-for-create, modifiable
max-file-write-zero-	**[2^12..2^25]**	integer	This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data

length		optional	lengths between 4 KB and 32 MB. The default value for this option is 32 MB. Attributes: optional-for-create, modifiable
max-lifs-per-session	**[1..256]**	integer optional	This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256. Attributes: optional-for-create, modifiable
max-mpx	**[2..65535]**	integer optional	This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255. Attributes: optional-for-create, modifiable
max-opens-same-file-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000. Attributes: optional-for-create, modifiable
max-same-tree-connect-per-session	**[0..2^32-1]**	integer optional	This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The default value for this option is 5000. Attributes: optional-for-create, modifiable
max-same-user-sessions-per-connection	**[0..2^32-1]**	integer optional	This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500. Attributes: optional-for-create, modifiable
max-watches-set-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500. Attributes: optional-for-create, modifiable
path-component-cache-entry-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable
path-component-cache-max-entries	**[1000..1000000]**	integer optional	This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000. Attributes: optional-for-create, modifiable
path-component-cache-max-session-token-size	**[500..10000]**	integer optional	This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000. Attributes: optional-for-create, modifiable
path-component-cache-symlink-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable
read-grants-execute		enable optional	On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Attributes: optional-for-create, modifiable Possible values: • "enabled" , • "disabled"
			This optional parameter specifies what level of access will a non authenticated user get Attributes: optional-for-create, modifiable Possible values:

restrict-anonymous		anonymous-restriction-level optional	• "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
shadowcopy-dir-depth	**[0..2^32-1]**	integer optional	This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable
smb1-max-buffer-size	**[4356..65535]**	integer optional	This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable
widelink-as-reparse-point-versions		cifs-dialects[] optional	This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Attributes: optional-for-create, modifiable Possible values: • "smb1" - SMB 1.0, • "smb2" - SMB 2.0, • "smb2_1" - SMB 2.1, • "smb3" - SMB 3.0, • "smb3_1" - SMB 3.1
win-name-for-null-user		string optional	This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session. Attributes: optional-for-create, modifiable
wins-servers		inet-address[] optional	List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses. Attributes: optional-for-create, modifiable

Element definition: **cifs-preferred-dc-check-info**

[top]

Basic configuration information for the Preferred DC. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
		string[]	

dc-ip-addr		optional	DC Address Attributes: key, non-creatable, non-modifiable
domain-name		string[] optional	Domain Name Attributes: non-creatable, non-modifiable
status		service-state[] optional	DC Status Attributes: non-creatable, non-modifiable Possible values: • "down" , • "up"
status-details		string[] optional	Status Details Attributes: non-creatable, non-modifiable
vserver-name		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-privilege**

[top]

List of privileges assigned to local or Active Directory users or groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
privileges		cifs-privilege-entries[] optional	The privileges associated with a local or Active Directory user or group Attributes: non-creatable, non-modifiable Possible values: • "setcbprivilege" - Act as part of the operating system, • "sebackupprivilege" - Back up files and directories, overriding any ACLs, • "serestoreprivilege" - Restore files and directories, overriding any ACLs, • "setakeownershipprivilege" - Take ownership of files or other objects, • "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log, • "sechangenotifyprivilege" - Bypass traverse checking
user-or-group-name		cifs-name optional	The name of the local or Active Directory user or group Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-privilege-entries**

[top]

Privilege Possible values:

- "setcbprivilege" - Act as part of the operating system,
- "sebackupprivilege" - Back up files and directories, overriding any ACLs,
- "serestoreprivilege" - Restore files and directories, overriding any ACLs,
- "setakeownershipprivilege" - Take ownership of files or other objects,
- "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log,
- "sechangenotifyprivilege" - Bypass traverse checking

[none]

Element definition: **cifs-security**

[top]

CIFS security tunable parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
advertised-enc-types		cifskrbenctypes[] optional	This parameter determines which encryption types will be advertised to Kerberos. By default AES-256, AES-128, RC4 and DES will be advertised. Attributes: non-creatable, modifiable Possible values: • "des" , • "rc4" , • "aes_128" , • "aes_256"
aes-enabled-for-netlogon-channel		boolean optional	This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false. Attributes: non-creatable, modifiable
encryption-required-for-dc-connections		boolean optional	This parameter determines if encryption is required for connections to domain controllers. Attributes: non-creatable, modifiable
is-aes-encryption-enabled		boolean optional	(DEPRECATED) This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is true. Attributes: non-creatable, modifiable
is-password-complexity-required		boolean optional	This parameter determines whether password complexity is required for local users. By default this option is true. Attributes: non-creatable, modifiable
is-signing-required		boolean optional	This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable
is-smb-		boolean	This parameter determines whether SMB encryption is

encryption-required		optional	required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable
kerberos-clock-skew	**[0..2^32-1]**	integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. Attributes: non-creatable, modifiable
kerberos-kdc-timeout	**[1..23]**	integer optional	This parameter determines the timeout value in seconds for KDC connections. Attributes: non-creatable, modifiable
kerberos-renew-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in days for which a ticket can be renewed. Attributes: non-creatable, modifiable
kerberos-ticket-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication. Attributes: non-creatable, modifiable
lm-compatibility-level		lm-compatibility-level optional	This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Attributes: non-creatable, modifiable Possible values: • "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos, • "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos, • "ntlmv2_krb" - Accepts NTLMv2 and Kerberos, • "krb" - Accepts Kerberos only
referral-enabled-for-ad-ldap		boolean optional	This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable
session-security-for-ad-ldap		ldap-security optional	This parameter determines the level of security for LDAP communications. By default this option is none. Attributes: non-creatable, modifiable Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
smb1-enabled-for-dc-connections		system-default-bool optional	(DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values: • "false" , • "true" , • "system_default"
smb2-enabled-for-dc-connections		system-default-bool optional	This parameter determines if SMB version 2 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values: • "false" , • "true" , • "system_default"
try-channel-binding-for-ad-ldap		boolean optional	This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true. Attributes: non-creatable, modifiable
use-ldaps-for-ad-ldap		boolean optional	This parameter determines whether to use LDAPS(port 636) for Secure Active Directory LDAP connections. By default this option is false. Attributes: non-creatable, modifiable

use-start-tls-for-ad-ldap		boolean optional	This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-server-config**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-status		service-state optional	CIFS Server Administrative Status. Attributes: optional-for-create, modifiable Possible values: • "down" , • "up"
auth-style		cifs-auth-style optional	The authentication style to be used for CIFS clients connecting to this CIFS server. Attributes: non-creatable, non-modifiable Possible values: • "domain" - DOMAIN, • "workgroup" - WORKGROUP, • "realm" - KERBEROS REALM
cifs-server		netbios-name optional	The NetBIOS name of the CIFS server. Attributes: required-for-create, modifiable
comment		string optional	CIFS Server Description. Attributes: optional-for-create, modifiable
default-site		string optional	The default site used by LIFs that do not have a site membership. Attributes: optional-for-create, modifiable
domain		string optional	The Fully Qualified Domain Name of the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable
domain-workgroup		domain-name optional	The NetBIOS name of the domain or workgroup this CIFS server belongs to. Attributes: non-creatable, non-modifiable
netbios-aliases		netbios-name[] optional	List of NetBIOS Aliases Attributes: optional-for-create, non-modifiable
organizational-unit		string optional	The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable
realm		string optional	The Kerberos realm this CIFS server belongs to. Attributes: optional-for-create, modifiable
vserver		string	Vserver containing the CIFS server. Attributes: key, non-creatable,

		optional	non-modifiable
workgroup		netbios-name optional	The name of the workgroup this CIFS server belongs to. Attributes: optional-for-create, modifiable

Element definition: **cifs-session**

[top]

Displays the established CIFS sessions When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	The ip address of the workstation from which the session is opened. Attributes: non-creatable, non-modifiable
auth-mechanism		auth-mechanism optional	The authentication mechanism used to establish the session. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "ntlmv1" , • "ntlmv2" , • "kerberos" , • "anonymous"
connected-time		elapsed-time-ext optional	The time duration since the session was established. Attributes: non-creatable, non-modifiable
connection-count	**[0..2^32-1]**	integer optional	The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable
connection-id	**[0..2^32-1]**	integer optional	The connection that is used to establish the session. Attributes: key, optional-for-create, non-modifiable
continuously-available		cifs-ca-protection optional	The type of continuous avalability protection provided to the session. Attributes: non-creatable, non-modifiable Possible values: • "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available., • "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available., • "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.
files	**[0..2^64-1]**	integer optional	The number of the regular files that are opened under the session. Attributes: non-creatable, non-modifiable
idle-time		elapsed-time-ext	The time duration since there was last activity on the session.

		optional	Attributes: non-creatable, non-modifiable
is-large-mtu-enabled		boolean optional	This optional parameter specifies the status of the Large MTU over the CIFS session. Attributes: non-creatable, non-modifiable
is-session-signed		boolean optional	Displays if a CIFS session is SMB Signed. If true, the CIFS session is signed. If false, the CIFS session is not signed. Attributes: non-creatable, non-modifiable
lif-address		ip-address optional	The data lif that is used to establish the session. Attributes: non-creatable, non-modifiable
netbios-name		string optional	Displays the NetBIOS name client used for connecting to the share. Attributes: non-creatable, non-modifiable
node		string optional	The name of the node on which the session listing is done. Attributes: key, required-for-create, non-modifiable
other	**[0..2^64-1]**	integer optional	The number of the special files that are opened under the session. Attributes: non-creatable, non-modifiable
protocol-version		cifs-dialects optional	The CIFS protocol version that is used to establish the session. Attributes: non-creatable, non-modifiable Possible values: • "smb1" - SMB 1.0, • "smb2" - SMB 2.0, • "smb2_1" - SMB 2.1, • "smb3" - SMB 3.0, • "smb3_1" - SMB 3.1
session-id	**[0..2^64-1]**	integer optional	The unique identifier for the session. Attributes: key, optional-for-create, non-modifiable
shares	**[0..2^32-1]**	integer optional	The number of the CIFS shares that are opened under the session. Attributes: non-creatable, non-modifiable
smb-encryption-status		smb-encryption optional	Displays the status of SMB encryption that is happening over the CIFS session. Attributes: non-creatable, non-modifiable Possible values: • "unencrypted" - CIFS session is not encrypted., • "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session., • "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.
unix-user		string optional	The name of the UNIX user for which the session is established. Attributes: non-creatable, non-modifiable
user-type		string optional	The Classification of the Authenticated user. Attributes: non-creatable, non-modifiable Possible values: • "local_user" , • "domain_user" , • "guest_user" , • "anonymous_user"
vserver		string optional	The Vserver name on which the session listing is done. Attributes: key, non-creatable, non-modifiable
win-unix-creds		string optional	Display the Windows and UNIX credentials. This field is not returned by default and must be requested via desired-attributes. Attributes: non-creatable, non-modifiable
windows-user		string optional	The name of the CIFS user for which the session is established. Attributes: non-creatable, non-modifiable

Element definition: **cifs-session-file**

[top]

Displays the opened CIFS files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-count	**[0..2^32-1]**	integer optional	The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable
connection-id	**[0..2^32-1]**	integer optional	The connection that is used to open the file. Attributes: key, optional-for-create, non-modifiable
continuously-available		cifs-ca-protection optional	The type of continuous availability protection provided to the file. Attributes: non-creatable, non-modifiable Possible values: • "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available., • "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available., • "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.
file-id	**[0..2^64-1]**	integer optional	The unique identifier for the opened file. Attributes: key, optional-for-create, non-modifiable
file-type		cifs-file-type optional	The type of opened file. Attributes: non-creatable, non-modifiable Possible values: • "regular" , • "symlink" , • "stream" , • "directory"
flexgroup-msid	**[0..2^64-1]**	integer optional	The FlexGroup MSID of the volume on which the file resides. Attributes: non-creatable, non-modifiable
hosting-aggregate		aggr-name optional	The name of the aggregate on which the file resides. Attributes: non-creatable, non-modifiable
hosting-volume		volume-name optional	The name of the volume on which the file resides. Attributes: non-creatable, non-modifiable
node		string optional	The name of the node on which the file listing is done. Attributes: key, required-for-create, non-modifiable
open-mode		cifs-open-mode	The mode in which the file is opened. Attributes: non-creatable, non-modifiable Possible values: • "r" - Read,

		optional	"w" - Write, • "d" - Delete
path		string optional	The path of the file. Attributes: non-creatable, non-modifiable
range-locks	**[0..2^32-1]**	integer optional	The number of range locks granted on the file. Attributes: non-creatable, non-modifiable
reconnected		string optional	The state that represents if the file was opened after network disconnect. Attributes: non-creatable, non-modifiable
session-id	**[0..2^64-1]**	integer optional	The session under which file is opened. Attributes: key, optional-for-create, non-modifiable
share		cifs-share-name optional	The share name where the file resides. Attributes: non-creatable, non-modifiable
share-mode		cifs-open-mode optional	The share mode used to open the file. Attributes: non-creatable, non-modifiable Possible values: • "r" - Read, • "w" - Write, • "d" - Delete
vserver		string optional	The Vserver name on which the file listing is done. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-session-info**

[top]

Information about a single cifs session.

Name	Range	Type	Description
change-notifies		integer	Number of active ChangeNotify requests.
dirs		integer	Number of open directories.
files		integer	Number of open files.
host-ip		ip-address	IP address, in dotted-decimal format, of the CIFS client.
host-name		string optional	NetBios name of the CIFS client. This may be unavailable in certain situations. In such cases, the ONTAPI element 'host-ip' alone provides identity of the host.
shares		integer	Number of open shares.
user		string optional	Name of the user.
volumes-list		volumes-list-info[]	List of volumes being accessed during the session.

Element definition: **cifs-setup-ou**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

Element definition: **cifs-setup-site**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

Element definition: **cifs-share**

[top]

CIFS share configuration. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
acl		string[] optional	This string list gives the applicable Access Control list for the CIFS share. Each list entry is a '/' separated pair of the User or Group name and the effective permissions. The permission could be 'Full Control', Change', 'Read' or 'No access'. e.g.: If the group is 'Everyone' and the effective permission for this group is 'Change', the entry would be 'Everyone / Change'. Attributes: non-creatable, non-modifiable
attribute-cache-ttl	**[0..2^32-1]**	integer optional	The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. Attributes: optional-for-create, modifiable
cifs-server		string optional	The NetBIOS name of the CIFS server that owns this share. Attributes: non-creatable, non-modifiable
comment		string optional	This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. Attributes: optional-for-create, modifiable
dir-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for-

			create, modifiable
file-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for-create, modifiable
force-group-for-create		string optional	This option specifies a predefined UNIX group name for which all files created by CIFS users in that share will be assigned group owenership to. Attributes: optional-for-create, modifiable
max-connections-per-share	**[1..2^32-1]**	integer optional	The maximum number of simultaneous connections allowed to the share. Attributes: optional-for-create, modifiable
offline-files-mode		string optional	Mode of the offline file for the CIFS share. The default value is manual. Possible values: • "none" - Clients are not permitted to cache files for offline access., • "manual" - Clients may cache files that are explicitly selected by the user for offline use., • "documents" - Clients may automatically cache files that are used by the user for offline access., • "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
path		string optional	The file system path that is shared through this CIFS share. The path is the full, user visible path relative to the vserver root, and it might be crossing junction mount points. The path is in UTF8 and uses forward slash as directory separator. Attributes: required-for-create, modifiable
share-name		string optional	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?"* Attributes: key, required-for-create, non-modifiable
			The list of properties for this CIFS share. Attributes: optional-for-create, modifiable Possible values: • "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share., • "browsable" - This specifies that the share can be browsed by Windows clients., • "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients., • "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify., • "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface., • "attributecache" - This specifies that connections through

share-properties		cifs-share-properties[] optional	this share are caching attributes for a short time to improve performance. • "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. • "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups. • "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share. • "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. • "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers. • "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share. • "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.
symlink-properties		cifs-share-symlink-properties[] optional	This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Attributes: optional-for-create, modifiable Possible values: • "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write, • "hide" (DEPRECATED) Hide both symlinks and widelinks, • "read_only" (DEPRECATED) Enable symlinks for read-only, • "symlinks" Enable symlinks only for read-write, DFS is not advertised, • "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised, • "disable" Disable both local symlinks and wide links, DFS is not advertised • "no_strict_security" Allow clients to follow symlinks beyond share boundaries
volume		string optional	The name of the volume where the root of the CIFS share resides.
			Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values: • "no_scan" - Virus scans are never triggered for accesses to

vscan-fileop-profile		vscan-fileop-profile optional	this share, • "standard" - Virus scans can be triggered by open, close, and rename operations, • "strict" - Virus scans can be triggered by open, read, close, and rename operations, • "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.
vserver		string optional	The name of the Vserver. Attributes: key, required-for-create, non-modifiable

Element definition: **cifs-share-access-control**

[top]

The permissions that users and groups have to a CIFS share. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
permission		cifs-access-perms optional	The access rights that the user or group has on the defined CIFS share. Attributes: required-for-create, modifiable Possible values: • "no_access" - No access, • "read" - Read, • "change" - Change, • "full_control" - Full Control, • "custom" - Custom
share		string optional	The CIFS share for which the permissions are defined. Attributes: key, required-for-create, non-modifiable
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Attributes: key, optional-for-create, non-modifiable Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string optional	The user or group name for which the permissions are listed. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable
winsid		windows-sid optional	The Windows SID for the user or group for which the permission is defined. Attributes: optional-for-create, modifiable

[top]

Element definition: **cifs-share-acl-info**

Information about single share.

Name	Range	Type	Description
share-name		string	Name of the share.
user-acl-info		access-rights-info[]	List of users or Unix groups that have access to this share.

Element definition: **cifs-share-info**

[top]

Information about a single cifs share.

Name	Range	Type	Description
caching		string optional	String specifying the type of caching: "no_caching", "auto_document_caching", "auto_program_caching" and "manual_caching".
description		string optional	description of the share.
dir-umask		integer optional	File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. This mask overrides one set with "umask".
file-umask		integer optional	File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. This mask overrides one set with "umask".
forcegroup		string optional	name of the group to which files to be created in the share belong to.
is-access-based-enum		boolean optional	If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. Its value is returned only if it is non-default value. Its default value is false.
is-browse		boolean optional	if true, this share can be browsed. Its values is returned only if it is non-default value. Its default value is true.
is-namespace-caching-allowed		boolean optional	If true, namespace caching is enabled on the share. If false or not specified, namespace caching is disabled. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance.
is-symlink-strict-security		boolean optional	If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. Its value is returned only if it is non-default value. Its default value is true.
is-vol-offline		boolean optional	If true, volume is offline and the shares are not available. Its value is returned only if it is non-default value. Its default value is false.
is-vscan		boolean optional	If true or not specified, virus scan is done when clients open files on this share. Its value is returned only if it is non-default value. Its default value is true.
is-vscanread		boolean optional	If true or not specified, virus scan is done when clients open files on this share for read access. Its value is returned only if it is non-default value. Its defalut value is true.
is-widelink		boolean	If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. Its value is returned only if it is non-default

		optional	value. Its default value is false.
maxusers		integer optional	max no. of simultaneous connections to the share.
mount-point		string	mount point of the share.
share-name		string	name of the cifs share.
umask		integer optional	File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of newly created files and directories. This field is ignored when both dir-umask and file-umask are present.

Element definition: **cifs-share-properties**

[top]

The list of properties on a CIFS share. Possible values:

- "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,
- "browsable" - This specifies that the share can be browsed by Windows clients.,
- "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,
- "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,
- "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface.,
- "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.
- "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
- "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback.
- "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.
- "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
- "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
- "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.
- "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.

[none]

Element definition: **cifs-share-symlink-properties**

[top]

enable|hide|read-only|symlinks|symlinks-and-widelinks|disable|no-strict-security Possible values:

- "enable" - (DEPRECATED)-Enable both local symlinks and wide links for read-write,
- "hide" - (DEPRECATED)-Hide both symlinks and wide links,
- "read_only" - (DEPRECATED)-Enable symlinks for read-only,
- "symlinks" - Enable symlinks only for read-write, DFS is not advertised,
- "symlinks_and_widelinks" - Enable both local symlinks and wide links, DFS is advertised,
- "disable" - Disable both local symlinks and wide links, DFS is not advertised,
- "no_strict_security" - Allow clients to follow symlinks outside share boundaries

[none]

Element definition: **cifs-symlink**

[top]

CIFS symbolic link path mapping configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cifs-path		string optional	This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. Attributes: required-for-create, modifiable
cifs-server		string optional	This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. Attributes: optional-for-create, modifiable
home-directory		boolean optional	This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. Attributes: optional-for-create, modifiable
locality		cifs-symlink-locality optional	This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Attributes: optional-for-create, modifiable Possible values: • "local" - Share on This VServer, • "widelink" - Share on Another CIFS Server, • "freelink" - Anywhere on This VServer (OBSOLETE)

share-name		string optional	This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. Attributes: optional-for-create, modifiable
unix-path		string optional	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-symlink-locality**

[top]

Locality of the destination where this symbolic link points. Possible values:

- "local" - Share on This VServer,
- "widelink" - Share on Another CIFS Server,
- "freelink" - Anywhere on This VServer (OBSOLETE)

[none]

Element definition: **cifs-top-info**

[top]

Information about a single cifs top.

Name	Range	Type	Description
ops-per-sec		integer	The number of operations of any type per second.
read-ops		integer	The number of read requests.
read-size		integer	The size in kbytes per second of data of read requests.
suspicious-per-sec		integer	The number of "suspicious" events per second due to the following conditions: ACCESS-DENIED returned for FindFirst ACCESS-DENIED returned for Open/CreateFile ACCESS-DENIED returned for DeleteFile SUCCESS returned for DeleteFile SUCCESS returned for TruncateFile
user-info		string	Information on the client with its IP address and user account.
write-ops		integer	The number of write requests.
write-size		integer	The size in kbytes per second of data of write requests.

Element definition: **cifs-user-home-directory-path**

[top]

This commands finds the home directory of a user specified in the command in all the home directory search path configured. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes

specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
path		string optional	The path of home directory for the specified user name. Attributes: non-creatable, non-modifiable
share-name		string optional	The expanded share name for the user. Attributes: non-creatable, non-modifiable
username		string optional	Output User Name Attributes: non-creatable, non-modifiable
vserver		vserverid optional	The name of the Vserver in which home directory for a user has to be searched. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-users-and-group-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		cifs-name optional	The name of the local group Attributes: key, non-creatable, non-modifiable
member		cifs-name[] optional	The member of a local group Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-users-and-group-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
membership		cifs-name[] optional	The membership of the local user Attributes: non-creatable, non-modifiable
user-name		cifs-name optional	The name of the local user Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifskrbenctypes**

[top]

CIFS Kerberos Encryption Type Possible values:

- "des" ,
- "rc4" ,
- "aes_128" ,
- "aes_256"

[none]

Element definition: **connection-info**

[top]

Structure containing information on the connection.

Name	Range	Type	Description
connected-address		address-info[] optional	An address list of currently connected servers.
favored-address		address-info[] optional	An address list of favored servers.
other-address		address-info[] optional	An address list of other servers.
preferred-address		address-info[] optional	An address list of preferred servers.

Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

Element definition: **homedir-path-info** [top]

path to user home directory paths Unix style path to user home directories, example: /vol/vol1/users1 The paths are listed in the same order that the filer will use to evaluate whether a user has a cifs home directory.

[none]

Element definition: **inet-address** [top]

Internet Address

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **ldap-security** [top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

Element definition: **lm-compatibility-level** [top]

LM compatibility level. Possible values:

- "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,
- "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,
- "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,
- "krb" - Accepts Kerberos only

[none]

Element definition: **nbalias-name-info**

[top]

NetBIOS alias for the filer

[none]

Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **path-error-info**

[top]

Error description

Name	Range	Type	Description
error-path		string	Homedir path, if any, which had the error. This value is set to NULL if there is no path associated with the error.
error-path-desc		string	A description of the error.

Element definition: **realm-name**

[top]

[none]

Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **smb-encryption**

[top]

The list of possible values for SMB Encryption status. Possible values:

- "unencrypted" - CIFS session is not encrypted.
- "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session.
- "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.

[none]

Element definition: **system-default-bool**

[top]

false|true|system-default Possible values:

- "false" ,
- "true" ,
- "system_default"

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **time-of-day**

[top]

Time of day in HH::MM::SS

[none]

Element definition: **uri**

[top]

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vscan-fileop-profile**

[top]

Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values:

- "no_scan" - Virus scans are never triggered for accesses to this share,
- "standard" - Virus scans can be triggered by open, close, and rename operations,
- "strict" - Virus scans can be triggered by open, read, close, and rename operations,
- "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.

[none]

Element definition: **windows-sid**

[top]

Unique Windows Security Identifier that identifies a User or Group or Machine account.

[none]

Element definition: **access-rights-info**

[top]

Access rights of single user or single Unix group.

Name	Range	Type	Description
access-rights		string	User access rights. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control".
unix-group-name		string optional	Name of the Unix group.
user-name		string optional	Name of the user.

Element definition: **address-info**

[top]

Structure containing address information of servers.

Name	Range	Type	Description
has-nossl		boolean optional	If true, the protocol SSL is not supported.
hostname		string optional	The resolved hostname of the IP address.
ip-address		string optional	The IP address in canonical form.
is-broken		boolean optional	If true, the address is not responding.
is-multihomed		boolean optional	If true, the address is a multi-homed server.
is-primary		boolean optional	If true, the address is a primary server.

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

Element definition: **auth-mechanism**

[top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

Element definition: **cifs-access-perms**

[top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

Element definition: **cifs-auth-style**

[top]

domain|workgroup|realm Possible values:

- "domain" - DOMAIN,
- "workgroup" - WORKGROUP,
- "realm" - KERBEROS REALM

[none]

Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

Element definition: **cifs-ca-protection** [top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.
- "Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

Element definition: **cifs-dialects** [top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

Element definition: **cifs-domain-discovered-server-funclvl** [top]

win2000|unknown|win2003|win2008|win2008r2|win2012|win2012r2|win2016|winthreshold Possible values:

- "win2000" - WIN2000,
- "unknown" - The DC functionality level is unknown,
- "win2003" - WIN2003,
- "win2008" - WIN2008,
- "win2008r2" - WIN2008R2,
- "win2012" - WIN2012,
- "win2012r2" - WIN2012R2,
- "win2016" - WIN2016,
- "winthreshold" - WINTHRESHOLD

[none]

Element definition: **cifs-domain-discovered-server-status**

[top]

Classification of server based on the status of the connection. Possible values:

- "ok" - The connection to this server is usable.,
- "unavailable" - This server is currently unavailable for use.,
- "slow" - The connection to this server is usable but slow.,
- "expired" - The connection to this server has expired.,
- "undetermined" - A connection to this server has not been attempted.,
- "unreachable" - This server is currently unreachable.

[none]

Element definition: **cifs-domain-discovered-server-type**

[top]

The classification of servers based on service provided. Possible values:

- "unknown" - The server type is not known,
- "kerberos" - Kerberos server,
- "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server,
- "ms_dc" - Microsoft Domain Controller,
- "ldap" - Lightweight Directory Access Protocol (LDAP) server

[none]

Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,

"none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

Element definition: **cifs-domain-server-prefer-type**

[top]

The preference level of the server either set due to configuration or due to the site membership determined by server discovery. Possible values:

- "unknown" - The preference level of this server is unknown.,
- "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers.,
- "favored" - This server was marked as favored by the server discovery process by virtue of site membership.,
- "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it.

[none]

Element definition: **cifs-file-type**

[top]

The list of possible types of files opened through CIFS servers. Possible values:

- "Regular" - Regular file
- "Symlink" - Symlink file
- "Stream" - Stream file
- "Directory" - Directory

[none]

Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

Element definition: **cifs-name**

[top]

[none]

Element definition: **cifs-open-mode** [top]

The list of possible modes used when opening files over CIFS servers. Possible values:

- "R" - The file opened for read operation.
- "W" - The file opened for write operation.
- "D" - The file opened for delete operation.

[none]

Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

Element definition: **domain-name** [top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

Element definition: **elapsed-time-ext** [top]

The difference between the two points in time.

[none]

Element definition: **volumes-list-info** [top]

Information about a single volume.

Name	Range	Type	Description
volume		string	Name of the volume.

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **vserverid**

[top]

Vserver Id

[none]

Element definition: **wins-entry-info**

[top]

Windows Internet Name Server (WINS) information

Name	Range	Type	Description
wins-address		ip-address optional	Windows Internet Name Service (WINS) Server address. Attributes: non-creatable, non-modifiable
wins-state		string optional	WINS Server State. Possible values: 'active', 'inactive'. Attributes: non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

APIs in Category: **clock**

clock-get-clock
clock-get-timezone
clock-set-clock
clock-set-timezone

These APIs allow for manipulation of timezone and date on the filer. Timezone and date can be set on the filer as well as we can get the current date, timezone and compliance clock time on the filer.

clock-get-clock

[top]

gets current date and time from filer.

Input Name	Range	Type	Description
is-compliance-clock		boolean optional	If true, then local-time and utc-time are values for the compliance clock, otherwise they are values for the local clock. Default is false. Note: This field is deprecated in Data ONTAP 8.1 and later. If true, the operation will fail with error EOPNOTSUPPORTED. Clients should use the API snaplock-get-system-compliance-clock or snaplock-get-volume-compliance-clock as applicable to get the compliance clock time.

Output Name	Range	Type	Description
local-time	**[-43200..2^31-1]**	integer	Local date and time of the filer in seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours.
utc-time	**[0..2^31-1]**	integer	Current date and time of the filer in seconds since Midnight, 1/1/1970.

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

clock-get-timezone

[top]

Gets current timezone and timezone file version.

Output Name	Range	Type	Description
timezone		string	Current timezone name where the storage system is operating. A timezone can have one of the two formats: 1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone."; 2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern

			Time Zone.";
timezone-UTC		string	Current timezone of the storage system in UTC +/-hhmm format. This indicates that the local time zone is hh hours and mm minutes ahead or behind UTC. For example, Central European Time(CET) is +0100 and U.S./Canadian Eastern Standard Time(EST) is -0500.
timezone-version		string	Version of the time zone database. "YYYY" is the year the data base was released and "v" is the version within that year. "YYYY" will be four decimal digits and "v" will be an ASCII letter starting with "a" and increasing with each version. For example, the second 2007 version is "2007b".

Errno	Description
ENOTIMEZONESET	
ENOTIMEZONEVERSION	

clock-set-clock

[top]

Set current date and time to the specified date and time.

Input Name	Range	Type	Description
is-utc-clock		boolean	If this is true, then clock is given in UTC (universal time) instead of local time.
time	**[-43200..2^31-1]**	integer	Actual value of the date and time which has to be set as the current date and time on filer. Value will be seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
ETAKENOVER	
EDATENOTSETONPARTNER	

clock-set-timezone

[top]

Set current timezone to the specified timezone.

Input Name	Range	Type	Description
timezone		string	Name of the timezone value which has to be set as current timezone value. A timezone can have one of the two formats: 1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone."; 2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern Time Zone.";

Errno	Description
EINVALIDTIMEZONE	
EINTERNALERROR	
ETIMEZONEDIFFERENTINRC	

APIs in Category: **clone**

clone-autodelete
clone-autodelete-status
clone-create
clone-deletion-add-extension
clone-deletion-get-iter
clone-deletion-minimum-size
clone-deletion-remove-extension
clone-split-enable
clone-split-load-get-iter
clone-split-status
clone-start
clone-token-create
clone-token-delete
clone-token-get
clone-token-get-iter
clone-token-modify-expiry-limit

The cloning feature is based on constant time sis cloning storage (SIS) implementation and is the the block sharing infrastructure provided by Data ONTAP. The feature allows for the cloning from a file, LUN or NVMe namespace. Also the user can clone the entire file, LUN, or NVMe namespace (full range) or a portion of the file, LUN, or NVMe namespace (sub range). In case of full range cloning, a new file/LUN/NVMe namespace will always be created in the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the destination file can either be same as the source file/LUN/NVMe namespace or can be a different file/LUN/NVMe namespace within the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. Constant time SIS cloning supersedes the implementation of cloning in versions older than Data ONTAP 8.1. In Data ONTAP 8.0 the cloning implementation is an asynchronous operation. The clone-start API is used to start a clone operation. It returns an clone-id which is used for polling to get the status of the clone operation using the clone-list-status API. If this API returns success, the user can consider that clone operation has completed; if it returns failure, the user should clear the status of clone operation using clone-clear API. A clone operation in progress can be aborted using the clone-stop API. In Data ONTAP 8.1 the cloning implementation is a synchronous operation. The APIs to manage ongoing synchronous operations are deprecated, but retained for backwards compatibility.

clone-autodelete

[top]

Enable autodelete on a file, LUN, or NVMe namespace clone. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
clone-path		string	Path of the file, LUN, or NVMe namespace inside the volume. It's relative if the volume name is specified; otherwise it's absolute.
enable		boolean	If this field is true, autodelete will be allowed to delete the clone in try/disrupt mode. and if it is false, autodelete will not be allowed to delete the clone in try/disrupt mode. Note that this will be done only if the clone entry is already present in the clone auto delete metafile.
force		boolean optional	If this field is true, autodelete will be enabled on specified file, LUN, or NVMe namespace by adding an entry in the clone auto delete metafile if it is not there, even if the specified file, LUN, or NVMe namespace is not a clone. By default value is false.
volume		string optional	Name of the volume where the clone file, LUN, or NVMe namespace resides.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EINVALIDINPUTERROR	
EINTERNALERROR	
EFILENOTFOUND	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EONTAPI_EPERM	
EONTAPI_EVOLOPNOTSUPP	

clone-autodelete-status

[top]

Get the information about file or LUN clone autodeletion

Input Name	Range	Type	Description
clone-path		string	Path of the file or LUN clone.

Output Name	Range	Type	Description
clone-autodelete-info		clone-autodelete-info	Information about file or LUN clone autodeletion.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-create

[top]

Create a file/sub file, LUN/sub LUN, or NVMe namespace/sub NVMe namespace clone. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
autodelete		boolean optional	Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false.
			List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. For sub-LUN or sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file. If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN cloning, the API will copy data in case the LBAs are not block aligned. In

block-ranges		block-range[] optional	case of sub-LUN/sub-NVMe namespace cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes, and the API returns an error if the block sizes do not match. Sub range cloning is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned.
destination-exists		boolean optional	Allow clone creation if the destination exists. By default value is false.
destination-path		string optional	Full path of the destination file, LUN, or NVMe namespace relative to the volume. The destination file must be in same volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file clone operation from snapshot copy, "destination-path" is mandatory.
destination-volume		string optional	Name of the volume where the destination file resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different.
ignore-locks		boolean optional	Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false.
ignore-streams		boolean optional	Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted.
is-backup		boolean optional	This option is only to be used with full-file clone creates for backups, where source file gets periodically modified and clone file is not modified. By default, value is false.
qos-adaptive-policy-group-name		string optional	QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the flexclone file's allocated space or used space. This field is available in Data ONTAP 9.4 and later
qos-policy-group-name		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a flexclone file, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later
snapshot-name		string optional	Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of the active filesystem will be used.
source-path		string	Relative path of the source file, LUN, or NVMe namespace inside the volume.
space-reserve		boolean optional	Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range.
token-uuid		string optional	Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation.
volume		string	Name of the volume where the source and destination files, LUNs, or NVMe namespaces reside.

Errno	Description

ESIS_CLONE_LICENSE_EXPIRED	
ESIS_CLONE_CLONE_INVALID_SPC_RSRV	
ESIS_CLONE_STALE_INODE	
ESIS_CLONE_DECOMP_ACTIVE	
ESIS_CLONE_SPLIT_MAP	
ESIS_CLONE_SOURCE_TOO_SMALL	
EDENSE_CLONE_NOT_LICENSED	
EONTAPI_EBUSY	
EONTAPI_ESTALE	
EONTAPI_EDQUOT	
EONTAPI_EACCES	
EONTAPI_ENOSPC	
ESIS_CLONE_DOWNGRADE	
EINTERNALERROR	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_GENERAL_OP_ERROR	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_CLONE_WITH_RANGE_PROHIBITED	
EVDISK_ERROR_7MODE_LUN	
EONTAPI_ENOMEM	
EVDISK_ERROR_TOO_MANY_LUNS	
ESIS_CLONE_BKPR_ENOSPC	
ESIS_CLONE_BKPR_TOKEN_EXPIRED	
ESIS_CLONE_CC_MISMATCH	
ESIS_CLONE_CC_SETFAIL	
EOP_DISALLOWED_FILE_FENCED	
ESIS_CLONE_SRC_VDISK_NOTSUP	
ESIS_CLONE_SRC_VDISK_INCONSISTENT	
ESIS_CLONE_MW_SUB_FILE_NOTSUP	
ESIS_CLONE_MW_X_VOL_CLONE_FAILURE	
EVDISK_INVALID_SECTOR_SIZE	
EVDISK_LUN_CROSS_NVME_NS	
EVDISK_NVME_NS_CROSS_LUN	

clone-deletion-add-extension

[top]

Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
extensions		string	Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete
volume		volume-name	Volume Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-deletion-get-iter

[top]

List the clone deletion info

Input Name	Range	Type	Description
desired-attributes		clone-deletion-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 10
query		clone-deletion-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		clone-deletion-info[] optional	The list of attributes of clone objects.
next-tag		string optional	Tag for the next call. Not present when there are no more clone objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

clone-deletion-minimum-size

[top]

Required minimum size of the file(s) and lun(s) on the specified volume to be deleted with clone-delete.

Input Name	Range	Type	Description
minimum-size		string	Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k|m|g|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes
		volume-	

volume		name	Volume Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

License
FlexClone

clone-deletion-remove-extension

[top]

Remove the no longer supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
extensions		string optional	Existing file extension that is no longer supported for clone-delete. If this value is not specified, then it will remove all the existing file extensions
volume		volume-name	Volume Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-split-enable

[top]

Enable clone split on split disabled entry

Input Name	Range	Type	Description
clone-path		string	Name of the clone file.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EINVALIDINPUTERROR	
EINTERNALERROR	
EFILENOTFOUND	
EAPIMISSINGARGUMENT	

License
FlexClone

clone-split-load-get-iter

[top]

Gets information about load on all nodes due to file or LUN clone split operations.

Input Name	Range	Type	Description
desired-attributes		clone-split-load-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 10
query		clone-split-load-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		clone-split-load-info[] optional	The list of attributes of clone objects.
next-tag		string optional	Tag for the next call. Not present when there are no more clone objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
ENODENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-split-status

[top]

Get the information about unsplit file or LUN clones in a volume

Input Name	Range	Type	Description
volume-name		string	Name of the volume where the file or LUN clone resides.

Output Name	Range	Type	Description
clone-split-info		clone-split-info	Information about unsplit file or LUN clones.

Errno	Description

EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVSERVER_OP_NOT_ALLOWED	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-start

[top]

In Data ONTAP 8.0 and earlier this API starts a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation asynchronously. If clone operation starts successfully, a unique clone-id is returned. User is supposed to poll clone-list-status specifying clone-id to get the status of the clone operation. When clone-list-status returns status as completed, user can consider that the clone operation has been completed successfully. If user gets status as failed, user is responsible for doing clone-clear which will clean the status of the clone operation. In Data ONTAP 8.1 and later, this API performs a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation synchronously. When this API returns successfully, the destination file is ready for use.

Input Name	Range	Type	Description
autodelete		boolean optional	Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false.
block-ranges		block-range[] optional	List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. The number of block ranges is limited to 32. For sub-LUN/sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN/sub-NVMe namespace cloning, the API will copy data in case the LBAs are not block aligned. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. If the source and destination block sizes do not match for sub-LUN/sub-NVMe namespace cloning, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned.
change-log		boolean optional	If this option is "true", fingerprints of data blocks of the destination file/block ranges created will be change logged to the change log file if A-SIS is enabled on the volume. With change logging clone operation will be slow, as to get fingerprints all the data blocks will be read. Without change logging clone operation deals with only indirect blocks without reading data blocks. Without change logging, fingerprints of the clone blocks are not recorded. The clone blocks are shared with the source blocks, but as later the source blocks are modified, corresponding clone blocks will no longer be shared. If change logging option is not used, clone blocks, which could be involved in sharing with rest of the file system, can not be shared in next sis operation. The only option, in case user had not used change logging while creating clone, will be to start sis from beginning using "sis start -s" to gather fingerprints of clone blocks. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored.
destination-		boolean	Allow clone creation if the destination exists. By default value is false.

exists		optional	
destination-path		string optional	Full path of the Destination file, LUN, or NVMe namespace in //file-path format. Destination path should be in same flexible volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file/sub-LUN/sub-NVMe namespace clone operation from snapshot copy, "destination-path" is mandatory.
destination-volume		string optional	Name of the volume where the destination files resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different.
ignore-locks		boolean optional	Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false.
ignore-streams		boolean optional	Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted.
is-backup		boolean optional	This option is only to be used with full-file clone creates for backups, where source file gets periodically modified, and clone file is not modified. By default, value is false.
no-snap		boolean optional	If no-snap is FALSE or unspecified, then a temporary snapshot will be taken and source file locked in snapshot will be considered for cloning. So that the clone operation does not get affected by writes to the source file in parallel to the clone operation. User will get atomic point in time copy of the source. Irrespective of clone operation completes successfully or unsuccessfully, any temporary snapshot taken for cloning will be deleted automatically. If no-snap is "true", then the source file in AFS will be used for cloning. In this case user may get random data in clone if source file is modified while clone operation is in progress. This option should only be used when user is assured that the source file will remain consistent during the clone operation. Destination file is not protected against any modification while clone operation is in progress. User should use the destination file or destination block ranges after clone operation is finished. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored.
snapshot-name		string optional	Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of in the active filesystem will be used. This field is available in Data ONTAP 8.1 or later
source-path		string	Full path of the source file, LUN, or NVMe namespace in //file-path format.
space-reserve		boolean optional	Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range.
token-uuid		string optional	Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation.

Output Name	Range	Type	Description
clone-id		clone-id-info	Unique ID information for the clone operation returned if clone operation starts successfully. This field is deprecated in Data ONTAP 8.1 and later, the returned value is guaranteed to be a completed clone operation if supplied to clone-list-info.

Errno	Description
ESIS_CLONE_CLONE_INVALID_SPC_RSRV	

ESIS_CLONE_NLCSR_INPROG	
ESIS_CLONE_VOL_NONEXIST	
ESIS_CLONE_VOL_OFFLINE	
ESIS_CLONE_VOL_NOTSUP	
ESIS_CLONE_VOL_RDONLY	
ESIS_CLONE_VOL_TRANSITING	
ESIS_CLONE_STALE_INODE	
ESIS_CLONE_STALE_DINODE	
ESIS_CLONE_STALE_RINODE	
ESIS_CLONE_SHUTDOWN	
ESIS_CLONE_FAILOVER	
ESIS_CLONE_CLONE_EXIST	
ESIS_CLONE_CLONE_SFILE_NONEXIST	
ESIS_CLONE_CLONE_CFILE_NONEXIST	
ESIS_CLONE_CLONE_DIFF_VOLUME	
ESIS_CLONE_CLONE_SFILE_ATTR	
ESIS_CLONE_CLONE_CFILE_ATTR	
ESIS_CLONE_CLONE_FH	
ESIS_CLONE_CLONE_SOURCE_FH	
ESIS_CLONE_CLONE_TYPE_SUPP	
ESIS_CLONE_CLONE_OVERLAP_RANGE	
ESIS_CLONE_CLONE_INVALID_RANGE	
ESIS_CLONE_CLONE_INVALID_SOURCE	
ESIS_CLONE_CLONE_INVALID_CLONE	
ESIS_CLONE_CLONE_INVALID_DIR	
ESIS_CLONE_CLONE_WORM_VOL	
ESIS_CLONE_VDISK_INVALID_NAME	
ESIS_CLONE_LICENSE_EXPIRED	
ESIS_CLONE_NOT_LICENSED	
ESIS_CLONE_LICENSE_EXPIRED	
ESIS_CLONE_NOT_LICENSED	
ESIS_CLONE_DECOMP_ACTIVE	
ESIS_CLONE_SPLIT_MAP	
ESIS_CLONE_SOURCE_TOO_SMALL	
EONTAPI_EBUSY	
EONTAPI_ESTALE	
EONTAPI_EDQUOT	
EONTAPI_EACCES	
EONTAPI_ENOSPC	
ESIS_CLONE_DOWNGRADE	
ESIS_CLONE_VFILER_ACCESS	
ESIS_CLONE_MAX_RANGES	
ESIS_CLONE_MAX_BLKS	
ESIS_CLONE_MAX_BLKS_EXT	
ESIS_CLONE_SRC_DST_CIFS_MISMATCH	
EINTERNALERROR	
ESIS_CLONE_MAX_DENSE_LIMIT_REACHED	
EVSERVER_OPERATION_NOT_PERMITTED	

EOP_DISALLOWED_FILE_FENCED	
EONTAPI_ENAMETOOLONG	
ESIS_CLONE_NOSPLIT_NOT_ALLOWED	
ESIS_CLONE_MW_SUB_FILE_NOTSUP	
ESIS_CLONE_MW_X_VOL_CLONE_FAILURE	
EVDISK_INVALID_SECTOR_SIZE	
EVDISK_LUN_CROSS_NVME_NS	
EVDISK_NVME_NS_CROSS_LUN	

clone-token-create

[top]

Create a token to reserve available split load on a node. This token can be used with clone-create api to use up the reserved split load. This will to allow clone creates from getting throttled.

Input Name	Range	Type	Description
expiry-limit		integer optional	The duration (in seconds) for which the reserved token is valid.
node		node-name	Node name on which split load is reserved.
reserve-size		size	Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones.

Output Name	Range	Type	Description
token-uuid		string	Token UUID for which the split load is reserved.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-delete

[top]

Delete token(s) to increase the allowed split load by a node.

Input Name	Range	Type	Description
node		node-name	Node name on which split load is reserved.
token-uuid		string optional	Token UUID for which the split load is reserved.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-get

[top]

Get the information about a specified token.

Input Name	Range	Type	Description
node		node-name	Node name on which split load is reserved.
token-uuid		string	Token UUID for which the split load is reserved.

Output Name	Range	Type	Description
clone-token-info		clone-token-info	Information about token reserved for file or LUN clone creates.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-get-iter

[top]

Get the information about all reserved tokens.

Input Name	Range	Type	Description
desired-attributes		clone-token-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
node		node-name	Node name on which split load is reserved.
query		clone-token-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		clone-token-info[] optional	The list of attributes of clone objects.
next-tag		string optional	Tag for the next call. Not present when there are no more clone objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-modify-expiry-limit

[top]

Modify the allowed expiry limit for token(s).

Input Name	Range	Type	Description
node		node-name	Node name on which split load is reserved.
reservation-duration-limit	**[0..2^64-1]**	integer	The duration (in seconds) for which the reserved token is valid.
token-uuid		string optional	Token UUID for which the split load is reserved.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

Element definition: **block-range**

[top]

Structure containing source and destination block range for sub-file/sub-LUN/sub-NVMe namespace cloning.

Name	Range	Type	Description
block-count	**[1..2^27]**	integer	Number of blocks to be cloned.
destination-block-number	**[0..2^63-1]**	integer	Starting file block number of destination block range.
source-block-number	**[0..2^63-1]**	integer	Starting file block number of source block range. Block size is 4096 bytes.

Element definition: **clone-autodelete-info**

[top]

Information about file or LUN clone autodeletion. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-autodelete-enabled		boolean optional	If this field is true, autodelete will delete the clone in try/disrupt mode. If it is false, autodelete will delete the clone only in destroy mode. Attributes: non-creatable, non-modifiable

Element definition: **clone-deletion-info**

[top]

Structure containing the clone deletion information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
extension-info-list		extension-info[] optional	List of file extensions that needs to be added/removed for clone-delete
minimum-size		string optional	Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k|m|g|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes Attributes: non-creatable, modifiable
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **clone-id-info**

[top]

Structure containing clone ID information.

Name	Range	Type	Description
clone-op-id	**[0..2^63-1]**	integer	ID of the clone operation.
volume-uuid		string	uuid of the volume.

Element definition: **clone-split-info**

[top]

Information about unsplit file or LUN clones. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
unsplit-clone-count	**[0..2^32-1]**	integer optional	Number of file clones or LUN clones present in the the volume that are not split. Attributes: non-creatable, non-modifiable
unsplit-size		size optional	Total size (in bytes) of file or LUN clones in the volume that are not split. Attributes: non-creatable, non-modifiable

Element definition: **clone-split-load-info**

[top]

Information about load on the node due to file or LUN clone split operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
available-split-load		size optional	Remaining allowable load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable
current-split-load		size optional	Current clone split load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable
max-split-load		size optional	Maximum clone split load allowed on the node. Load is specified in number of bytes. Attributes: non-creatable, modifiable
node		node-name optional	Node name for which the clone split load is required. Attributes: key, non-creatable, non-modifiable
token-reserved-load		size optional	Load reserved by tokens on the node for clone creation. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable

Element definition: **clone-token-info**

[top]

Information about token reserved for file or LUN clone creates. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
expiry-limit	**[0..2^64-1]**	integer optional	The duration (in seconds) for which the reserved token is valid. Attributes: optional-for-create, modifiable
node		node-name optional	Node name on which split load is reserved. Attributes: key, required-for-create, non-modifiable
reserve-size		size optional	Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones. Attributes: required-for-create, non-modifiable
time-left	**[0..2^64-1]**	integer optional	The remaining duration (in seconds) for which the reserved token is valid. Attributes: non-creatable, non-modifiable
token-uuid		string optional	Token UUID for which the split load is reserved. Attributes: key, required-for-create, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **extension-info**

[top]

File extensions for clone-delete

Name	Range	Type	Description
extensions		string optional	Supported file extensions for clone-delete Attributes: non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **cluster**

cluster-add-node
cluster-add-node-status-get-iter
cluster-contact-get
cluster-contact-modify
cluster-create
cluster-create-join-progress-get
cluster-identity-get
cluster-identity-modify
cluster-join
cluster-log-forward-create
cluster-log-forward-destroy
cluster-log-forward-get
cluster-log-forward-get-iter
cluster-log-forward-modify
cluster-log-forward-statistics-get
cluster-log-forward-statistics-get-iter
cluster-node-get
cluster-node-get-iter
cluster-node-modify
cluster-remove-node
cluster-zoneinfo-get
cluster-zoneinfo-load-from-uri

This set of APIs allows managing the cluster and its attributes.

cluster-add-node

[top]

Use this API to add new nodes to cluster. Provide only one of node-count, node-ip, or cluster-ips. To watch the progress use cluster-add-node-status-get-iter API. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cluster-ips		ip-address[] optional	Use this option to add a set of nodes based on their cluster IP addresses.
discovery-timeout		integer optional	Max Time to Discover Nodes to Be Added (in Secs)
node-count		integer optional	Use this option to discover and add new nodes. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4.

node-ip		ip-address optional	Use this option to add a specific node based on its cluster IP address. This parameter has been deprecated in Data ONTAP 9.4.
node-names		string[] optional	Use this option to specify the names to use for the nodes added using the cluster-ips argument.
node-uuids		uuid[] optional	List of Node UUIDs
retry		boolean optional	Retry a failed cluster add-node operation

Output Name	Range	Type	Description
job-id		integer optional	Job ID of Node Add
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
E_UNSUPPORTED_PLATFORM	

cluster-add-node-status-get-iter

[top]

Get Progress of Cluster Create or Node Add Operation

Input Name	Range	Type	Description
desired-attributes		cluster-create-add-node-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-create-add-node-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		cluster-create-add-node-	

list		status-info[] optional	The list of attributes of cluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-contact-get

[top]

Returns the contact information.

Input Name	Range	Type	Description
desired-attributes		cluster-contact optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-contact	The attributes of the cluster-contact.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-contact-modify

[top]

Modifies the contact information.

Input Name	Range	Type	Description
address		string optional	Business Address
business-name		string optional	Business Name
city		string optional	City Where Business Resides
			2-Character Country Code Possible values: • "99" - Unknown, • "ad" - Andorra, • "ae" - United Arab Emirates, • "af" - Afghanistan, • "ag" - Antigua and Barbuda, • "ai" - Anguilla,

			• "al" - Albania, • "am" - Armenia, • "an" - Netherlands Antilles, • "ao" - Angola, • "aq" - Antarctia, • "ar" - Argentina, • "as" - American Samoa, • "at" - Austria, • "au" - Australia, • "aw" - Aruba, • "az" - Azerbaijan, • "ba" - Bosnia and Herzegovina, • "bb" - Barbados, • "bd" - Bangladesh, • "be" - Belgium, • "bf" - Burkina Faso, • "bg" - Bulgaria, • "bh" - Bahrain, • "bi" - Burundi, • "bj" - Benin, • "bm" - Bermuda, • "bn" - Brunei Darussalem, • "bo" - Bolivia, • "br" - Brazil, • "bs" - Bahamas, • "bt" - Bhutan, • "bv" - Bouvet Island, • "bw" - Botswana, • "by" - Belarus, • "bz" - Belize, • "ca" - Canada, • "cc" - Cocos (Keeling) Islands, • "cd" - Congo, The Democratic Republic of the, • "cf" - Central African Republic, • "cg" - Congo, • "ch" - Switzerland, • "ci" - Cote d'Ivoire, • "ck" - Cook Islands, • "cl" - Chile, • "cm" - Cameroon, • "cn" - China, • "co" - Colombia, • "cr" - Costa Rica, • "cu" - Cuba, • "cv" - Cape Verde, • "cx" - Christmas Island, • "cy" - Cyprus, • "cz" - Czech Republic, • "de" - Germany, • "dj" - Djibouti, • "dk" - Denmark, • "dm" - Dominica, • "do" - Dominican Republic, • "dz" - Algeria, • "ec" - Ecuador, • "ee" - Estonia, • "eg" - Egypt, • "eh" - Western Sahara, • "er" - Eritrea, • "es" - Spain,

country		country-code optional	"et" - Ethiopia, • "fi" - Finland, • "fj" - Fiji, • "fk" - Falkland Islands (Malvinas), • "fm" - Micronesia, Federated States of, • "fo" - Faroe Islands, • "fr" - France, • "fx" - France Metropolitan, • "ga" - Gabon, • "gb" - United Kingdom, • "gd" - Grenada, • "ge" - Georgia, • "gf" - French Guiana, • "gh" - Ghana, • "gi" - Gibraltar, • "gl" - Greenland, • "gm" - Gambia, • "gn" - Guinea, • "gp" - Guadaloupe, • "gq" - Equatorial Guinea, • "gr" - Greece, • "gs" - South Georgia and the South Sandwich Islands, • "gt" - Guatemla, • "gu" - Guam, • "gw" - Guinea-Bissau, • "gy" - Guyana, • "hk" - China (Hong Kong S.A.R.), • "hm" - Heard and McDonald Islands, • "hn" - Honduras, • "hr" - Croatia, • "ht" - Haiti, • "hu" - Hungary, • "id" - Indonesia, • "ie" - Ireland, • "il" - Israel, • "in" - India, • "io" - British Indian Ocean Territory, • "iq" - Iraq, • "ir" - Iran, • "is" - Iceland, • "it" - Italy, • "jm" - Jamaica, • "jo" - Jordan, • "jp" - Japan, • "ke" - Kenya, • "kg" - Kyrgyzstan, • "kh" - Khmer Rep Cambodia, • "ki" - Kiribati, • "km" - Comoros, • "kn" - Saint Kitts and Nevis, • "kp" - Korea, Democratic People's Republic of (North Korea), • "kr" - Korea, Republic of (South Korea), • "kw" - Kuwait, • "ky" - Cayman Islands, • "kz" - Kazakhstan, • "la" - Lao People's Democratic Republic (Laos), • "lb" - Lebanon, • "lc" - Saint Lucia, • "li" - Liechtenstein,

			"lk" - Sri Lanka, • "lr" - Liberia, • "ls" - Lesotho, • "lt" - Lithuania, • "lu" - Luxembourg, • "lv" - Latvia, • "ly" - Libyan Arab Jamahiriya (Lybia), • "ma" - Morocco, • "mc" - Monaco, • "md" - Moldavia, • "mg" - Madagascar, • "mh" - Marshall Islands, • "mk" - Macedonia, • "ml" - Mali, • "mm" - Myanmar, • "mn" - Mongolia, • "mo" - China (Macau S.A.R.), • "mp" - Northern Mariana Islands, • "mq" - Martinique, • "mr" - Mauritania, • "ms" - Montserrat, • "mt" - Malta, • "mu" - Mauritius, • "mv" - Maldives, • "mw" - Malawi, • "mx" - Mexico, • "my" - Malaysia, • "mz" - Mozambique, • "na" - Namibia, • "nc" - New Caledonia, • "ne" - Niger, • "nf" - Norfolk Island, • "ng" - Nigeria, • "ni" - Nicaragua, • "nl" - Netherlands, • "no" - Norway, • "np" - Nepal, • "nr" - Nauru, • "nu" - Niue, • "nz" - New Zealand, • "om" - Oman, • "pa" - Panama, • "pe" - Peru, • "pf" - French Polynesia, • "pg" - Papua New Guinea, • "ph" - Philippines, • "pk" - Pakistan, • "pl" - Poland, • "pm" - St. Pierre and Miquelon, • "pn" - Pitcairn, • "pr" - Puerto Rico, • "pt" - Portugal, • "pw" - Palau, • "py" - Paraguay, • "qa" - Qatar, • "re" - Reunion, • "ro" - Romania, • "ru" - Russia, • "rw" - Rwanda, • "sa" - Saudi Arabia,

			"sb" - Solomon Islands, • "sc" - Seychelles, • "sd" - Sudan, • "se" - Sweden, • "sg" - Singapore, • "sh" - St. Helena, • "si" - Slovenia, • "sj" - Svalbard and Jan Mayen Islands, • "sk" - Slovakia, • "sl" - Sierra Leone, • "sm" - San Marino, • "sn" - Senegal, • "so" - Somalia, • "sr" - Suriname, • "st" - Sao Tome and Principe, • "sv" - El Salvador, • "sy" - Syrian Arab Republic (Syria), • "sz" - Swaziland, • "t9" - Service Agent Test Systems T9 XX, • "tc" - Turks and Caicos Islands, • "td" - Chad, • "tf" - French Southern Territories, • "tg" - Togo, • "th" - Thailand, • "tj" - Tajikistan, • "tk" - Tokelau, • "tl" - East Timor, • "tm" - Turkmenistan, • "tn" - Tunisia, • "to" - Tonga, • "tr" - Turkey, • "tt" - Trinidad And Tobago, • "tv" - Tuvalu, • "tw" - Taiwan, • "tz" - Tanzania, • "ua" - Ukraine, • "ug" - Uganda, • "um" - United States Minor Outlying Islands, • "us" - United States, • "uy" - Uruguay, • "uz" - Uzbekistan, • "va" - Vatican City State (Holy See), • "vc" - Saint Vincent and the Grenadines, • "ve" - Venezuela, • "vg" - British Virgin Islands, • "vi" - Virgin Islands (U.S.), • "vn" - Vietnam, • "vu" - Vanuatu, • "wf" - Wallis and Futuna Islands, • "ws" - Samoa (Western), • "ye" - Yemen, • "yt" - Mayotte, • "yu" - Serbia, • "za" - South Africa, • "zm" - Zambia, • "zw" - Zimbabwe
primary-alt-phone		string optional	Alternate Phone Number of Primary Contact
primary-email		string	Email Address or User ID of Primary Contact

		optional	
primary-name		string optional	Name of Primary Contact
primary-phone		string optional	Phone Number of Primary Contact
secondary-alt-phone		string optional	Alternate Phone Number of Secondary Contact
secondary-email		string optional	Email Address or User ID of Secondary Contact
secondary-name		string optional	Name of Secondary Contact
secondary-phone		string optional	Phone Number of Secondary Contact
state		string optional	State Where Business Resides
zip-code		string optional	Postal Code Where Business Resides

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-create

[top]

Start the process to create a cluster using this node. Use cluster-add-node-status-get-iter to track the status of the operation. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cluster-ips		ip-address[] optional	Use this option to specify the nodes in the cluster based on their cluster IP addresses.
cluster-name		string	Use this parameter to specify the name of the cluster you are creating. The cluster name must begin with a letter and cannot be more than 44 characters in length.
discovery-timeout		integer optional	Max Time to Discover Nodes to Be Added (in Secs)
keep-precluster-cert		boolean optional	Keep Precluster Certificate
license		license-code-v2 optional	The base cluster license obtain with the hardware or from NetApp professional services. This parameter has been deprecated in Data ONTAP 9.2.
node-count		integer optional	Use this parameter to specify the number of nodes in the cluster you are creating. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4.
node-names		string[] optional	Use this option to specify the names to use for the nodes specified using the cluster-ips argument.
node-uuids		uuid[] optional	List of Node UUIDs

retry		boolean optional	Retry a failed cluster create operation
single-node-cluster		boolean optional	The Cluster Is a Single Node Cluster

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINVALIDACCESS	
E_NODE_ALREADY_IN_CLUSTER	
E_CLUSTER_CREATE_JOIN_FAILED	

cluster-create-join-progress-get

[top]

Once the cluster create or cluster join operation has been started on this node, use this ZAPI to get the current status of the operation. During cluster join, there is a 1 to 5 second window where the network connection will be unavailable while web services restart. The caller will have to periodically retry until this ZAPI becomes available.

Input Name	Range	Type	Description
desired-attributes		cluster-create-join-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-create-join-progress-info	The attributes of the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-identity-get

[top]

Returns the cluster identity information.

Input Name	Range	Type	Description
desired-attributes		cluster-identity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-identity-info	The attributes of the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-identity-modify

[top]

Modifies the cluster identity information.

Input Name	Range	Type	Description
cluster-contact		string optional	The contact information for the cluster
cluster-location		string optional	The location of the cluster
cluster-name		cluster-name-simple optional	The textual name of the cluster

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-join

[top]

Start the process of joining this node to a cluster. Join can be done by Cluster IP Address. Only one join operation is supported at a time. Use cluster-create-join-progress-get to track the status of the operation. This API is deprecated as of Data ONTAP 9.2, and the cluster-add-node API should be used instead.

Input Name	Range	Type	Description
cluster-ip-address		ip-address optional	IP Address of a Cluster Interface from a Node in the Cluster
cluster-name		string optional	(DEPRECATED)-Cluster Name of the Cluster to Join

Errno	Description

E_INVALID_OPERATION	
E_NODE_ALREADY_IN_CLUSTER	
E_CLUSTER_INTERFACE_REQUIRED	
EAPIMISSINGARGUMENT	
E_MULTIPLE_CLUSTERS_OF_SAME_NAME_EXIST	
E_CLUSTER_CREATE_JOIN_FAILED	

cluster-log-forward-create

[top]

Create a log forwarding configuration

Input Name	Range	Type	Description
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
facility		syslog-facility optional	Facility code used to indicate the type of software that generated the message. Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3, • "local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
force		boolean optional	Skip the Connectivity Test
ipspace		string optional	The IP space of the destination to forward the message.
port	**[1..65535]**	integer optional	The destination port used to forward the message.
protocol		log-fwd-proto optional	Log Forwarding Protocol Possible values: • "udp_unencrypted" - UDP unencrypted, • "tcp_unencrypted" - TCP unencrypted, • "tcp_encrypted" - TCP encrypted
return-record		boolean optional	If set to true, returns the log forwarding info on successful creation. Default: false
verify-server		boolean optional	Verify Destination Server Identity

Output Name	Range	Type	Description
result		cluster-log-forward-info optional	The log forwarding info created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-destroy

[top]

Delete a log forwarding configuration

Input Name	Range	Type	Description
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
port	**[1..65535]**	integer	The destination port used to forward the message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-get

[top]

Get information about log forwarding

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
port	**[1..65535]**	integer	The destination port used to forward the message.

Output Name	Range	Type	Description
attributes		cluster-log-forward-info	The attributes of the log forwarding info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-get-iter

[top]

Get information about log forwarding

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-log-forward-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding info object. All log forwarding info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-log-forward-info[] optional	The list of attributes of log forwarding info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more log forwarding info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-modify

[top]

Modify the log forwarding configuration

Input Name	Range	Type	Description
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
facility		syslog-facility optional	Facility code used to indicate the type of software that generated the message. Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3,

			"local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
ipspace		string optional	The IP space of the destination to forward the message.
port	**[1..65535]**	integer	The destination port used to forward the message.
verify-server		boolean optional	Verify Destination Server Identity

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-statistics-get

[top]

Get information about log forwarding statistics

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		remote-inet-address	Destination Host
index	**[0..2^32-1]**	integer	Destination Index
log		string	Log Name
node		node-name	Node
port	**[1..65535]**	integer	Destination Port

Output Name	Range	Type	Description
attributes		cluster-log-forward-statistics	The attributes of the log forwarding statistics.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-statistics-get-iter

[top]

Get information about log forwarding statistics

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-log-forward-statistics optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding statistics object. All log forwarding statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-log-forward-statistics[] optional	The list of attributes of log forwarding statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more log forwarding statistics objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-node-get

[top]

Returns information about a node in a cluster.

Input Name	Range	Type	Description
desired-attributes		cluster-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The textual name of a node.

Output Name	Range	Type	Description
attributes		cluster-node-	The attributes of the cluster.

		info	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-node-get-iter

[top]

Returns information about nodes in a cluster.

Input Name	Range	Type	Description
desired-attributes		cluster-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-node-info[] optional	The list of attributes of cluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-node-modify

[top]

Modifies state of a node in a cluster.

Input Name	Range	Type	Description
is-node-eligible		boolean optional	This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible.
is-node-epsilon		boolean optional	You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means

			the node is epsilon.
node-name		node-name	The textual name of a node.
skip-quorum-check-before-eligible		boolean optional	Skip quorum checks when setting a node eligible. When setting a node to eligible, the operation will continue even if there is a possible data outage due to a quorum issue.
skip-quorum-check-before-ineligible		boolean optional	Skip quorum checks when setting a node ineligible. When setting a node to ineligible, the operation will continue even if there is a possible data outage due to a quorum issue.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-remove-node

[top]

Removes a node from the cluster. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cluster-ip		ip-address optional	IP Address of a Cluster Interface of Node to Unjoin
force		boolean optional	Force Node to Unjoin
node		filer-id optional	Node to Unjoin
node-uuid		uuid optional	Node UUID to Unjoin
skip-epsilon-transition-before-unjoin		boolean optional	Skip Epsilon Transition Prior to Unjoin
skip-last-low-version-node-check		boolean optional	Skip the Check That Prevents Unjoining the Last Low Versioned Node
skip-quorum-check-before-unjoin		boolean optional	Skip quorum checks when removing a node. The operation will continue even if there is a possible data outage due to a quorum issue.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded",

			"in_progress", "failed".

Errno	Description
E_CLUSTER_CREATE_JOIN_UNJOIN_NODE_NOT_IN_CLUSTER	
E_CLUSTER_CREATE_JOIN_UNJOIN_SINGLE_NODE_CLUSTER	
E_CLUSTER_CREATE_JOIN_UNJOIN_ON_SAME_NODE	
E_UNJOIN_JOB_UPGRADE_PREVENT_UNJOIN	
E_CLUSTER_CREATE_JOIN_NODE_OFFLINE	
E_JOB_UNJOIN_JOB_ERROR	
E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM	

cluster-zoneinfo-get

[top]

Get zoneinfo information

Input Name	Range	Type	Description
desired-attributes		zoneinfo-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		zoneinfo-info	The attributes of the Zoneinfo info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-zoneinfo-load-from-uri

[top]

This commands loads a new set of timezone zoneinfo data to replace the version installed in the cluster.

Releases of Data ONTAP software contain the timezone data that is current at the time of release. If a change is made to the timezone between Data ONTAP releases, then an update can be made to the installed data.

For instance, if a change is made to when daylight saving time is observed for a country then an update to cluster zoneinfo data may be required.

Only zoneinfo files provided for use in Data ONTAP should be used with this command.

To update the zoneinfo database do the following:

- Download the required zoneinfo file from the support website.
- Place the file on a local web server accessible without password from the cluster.
- Execute this command, passing the Universal Resource Identifier (URI) of the file as parameter.

The command need only be executed once for the cluster. The data will be distributed to each node of

the cluster.

Input Name	Range	Type	Description
uri		uri	Universal Resource Identifier (URI) of the zoneinfo data to load. HTTP and FTP schemes are supported.

Errno	Description
EINVALIDINPUTERROR	
E_ZONEINFO_DOWNLOAD_FAILED	
E_ZONEINFO_UNSUPPORTED_FILE_TYPE	
E_ZONEINFO_UNZIP_FAILED	
E_ZONEINFO_UNTAR_FAILED	
E_ZONEINFO_INVALID_FILE	
E_ZONEINFO_FILESYSTEM_ERROR	

Element definition: **cluster-contact**

[top]

Administrator contact information for the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		string optional	Business Address Attributes: non-creatable, modifiable
business-name		string optional	Business Name Attributes: non-creatable, modifiable
city		string optional	City Where Business Resides Attributes: non-creatable, modifiable
			2-Character Country Code Attributes: non-creatable, modifiable Possible values: • "99" - Unknown, • "ad" - Andorra, • "ae" - United Arab Emirates, • "af" - Afghanistan, • "ag" - Antigua and Barbuda, • "ai" - Anguilla, • "al" - Albania, • "am" - Armenia, • "an" - Netherlands Antilles, • "ao" - Angola, • "aq" - Antarctia, • "ar" - Argentina, • "as" - American Samoa, • "at" - Austria, • "au" - Australia,

			• "aw" - Aruba, • "az" - Azerbaijan, • "ba" - Bosnia and Herzegovina, • "bb" - Barbados, • "bd" - Bangladesh, • "be" - Belgium, • "bf" - Burkina Faso, • "bg" - Bulgaria, • "bh" - Bahrain, • "bi" - Burundi, • "bj" - Benin, • "bm" - Bermuda, • "bn" - Brunei Darussalem, • "bo" - Bolivia, • "br" - Brazil, • "bs" - Bahamas, • "bt" - Bhutan, • "bv" - Bouvet Island, • "bw" - Botswana, • "by" - Belarus, • "bz" - Belize, • "ca" - Canada, • "cc" - Cocos (Keeling) Islands, • "cd" - Congo, The Democratic Republic of the, • "cf" - Central African Republic, • "cg" - Congo, • "ch" - Switzerland, • "ci" - Cote d'Ivoire, • "ck" - Cook Islands, • "cl" - Chile, • "cm" - Cameroon, • "cn" - China, • "co" - Colombia, • "cr" - Costa Rica, • "cu" - Cuba, • "cv" - Cape Verde, • "cx" - Christmas Island, • "cy" - Cyprus, • "cz" - Czech Republic, • "de" - Germany, • "dj" - Djibouti, • "dk" - Denmark, • "dm" - Dominica, • "do" - Dominican Republic, • "dz" - Algeria, • "ec" - Ecuador, • "ee" - Estonia, • "eg" - Egypt, • "eh" - Western Sahara, • "er" - Eritrea, • "es" - Spain, • "et" - Ethiopia, • "fi" - Finland, • "fj" - Fiji, • "fk" - Falkland Islands (Malvinas), • "fm" - Micronesia, Federated States of, • "fo" - Faroe Islands, • "fr" - France, • "fx" - France Metropolitan, • "ga" - Gabon,

country		country-code optional	"gb" - United Kingdom, • "gd" - Grenada, • "ge" - Georgia, • "gf" - French Guiana, • "gh" - Ghana, • "gi" - Gibraltar, • "gl" - Greenland, • "gm" - Gambia, • "gn" - Guinea, • "gp" - Guadaloupe, • "gq" - Equatorial Guinea, • "gr" - Greece, • "gs" - South Georgia and the South Sandwich Islands, • "gt" - Guatemla, • "gu" - Guam, • "gw" - Guinea-Bissau, • "gy" - Guyana, • "hk" - China (Hong Kong S.A.R.), • "hm" - Heard and McDonald Islands, • "hn" - Honduras, • "hr" - Croatia, • "ht" - Haiti, • "hu" - Hungary, • "id" - Indonesia, • "ie" - Ireland, • "il" - Israel, • "in" - India, • "io" - British Indian Ocean Territory, • "iq" - Iraq, • "ir" - Iran, • "is" - Iceland, • "it" - Italy, • "jm" - Jamaica, • "jo" - Jordan, • "jp" - Japan, • "ke" - Kenya, • "kg" - Kyrgyzstan, • "kh" - Khmer Rep Cambodia, • "ki" - Kiribati, • "km" - Comoros, • "kn" - Saint Kitts and Nevis, • "kp" - Korea, Democratic People's Republic of (North Korea), • "kr" - Korea, Republic of (South Korea), • "kw" - Kuwait, • "ky" - Cayman Islands, • "kz" - Kazakhstan, • "la" - Lao People's Democratic Republic (Laos), • "lb" - Lebanon, • "lc" - Saint Lucia, • "li" - Liechtenstein, • "lk" - Sri Lanka, • "lr" - Liberia, • "ls" - Lesotho, • "lt" - Lithuania, • "lu" - Luxembourg, • "lv" - Latvia, • "ly" - Libyan Arab Jamahiriya (Lybia), • "ma" - Morocco, • "mc" - Monaco,

"md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,
- "sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,

			"sl" - Sierra Leone, • "sm" - San Marino, • "sn" - Senegal, • "so" - Somalia, • "sr" - Suriname, • "st" - Sao Tome and Principe, • "sv" - El Salvador, • "sy" - Syrian Arab Republic (Syria), • "sz" - Swaziland, • "t9" - Service Agent Test Systems T9 XX, • "tc" - Turks and Caicos Islands, • "td" - Chad, • "tf" - French Southern Territories, • "tg" - Togo, • "th" - Thailand, • "tj" - Tajikistan, • "tk" - Tokelau, • "tl" - East Timor, • "tm" - Turkmenistan, • "tn" - Tunisia, • "to" - Tonga, • "tr" - Turkey, • "tt" - Trinidad And Tobago, • "tv" - Tuvalu, • "tw" - Taiwan, • "tz" - Tanzania, • "ua" - Ukraine, • "ug" - Uganda, • "um" - United States Minor Outlying Islands, • "us" - United States, • "uy" - Uruguay, • "uz" - Uzbekistan, • "va" - Vatican City State (Holy See), • "vc" - Saint Vincent and the Grenadines, • "ve" - Venezuela, • "vg" - British Virgin Islands, • "vi" - Virgin Islands (U.S.), • "vn" - Vietnam, • "vu" - Vanuatu, • "wf" - Wallis and Futuna Islands, • "ws" - Samoa (Western), • "ye" - Yemen, • "yt" - Mayotte, • "yu" - Serbia, • "za" - South Africa, • "zm" - Zambia, • "zw" - Zimbabwe
primary-alt-phone		string optional	Alternate Phone Number of Primary Contact Attributes: non-creatable, modifiable
primary-email		string optional	Email Address or User ID of Primary Contact Attributes: non-creatable, modifiable
primary-name		string optional	Name of Primary Contact Attributes: non-creatable, modifiable
primary-phone		string optional	Phone Number of Primary Contact Attributes: non-creatable, modifiable
secondary-alt-phone		string optional	Alternate Phone Number of Secondary Contact Attributes: non-creatable, modifiable
secondary-		string	Email Address or User ID of Secondary Contact Attributes: non-

email		optional	creatable, modifiable
secondary-name		string optional	Name of Secondary Contact Attributes: non-creatable, modifiable
secondary-phone		string optional	Phone Number of Secondary Contact Attributes: non-creatable, modifiable
state		string optional	State Where Business Resides Attributes: non-creatable, modifiable
zip-code		string optional	Postal Code Where Business Resides Attributes: non-creatable, modifiable

Element definition: **cluster-create-add-node-status-info**

[top]

Information that identifies the state of a cluster create or node add operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-ip		ip-address optional	IP Address of a Cluster Interface of Node Attributes: non-creatable, non-modifiable
failure-msg		string optional	Error Reason Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Job ID of Join Job Attributes: non-creatable, non-modifiable
node-name		string optional	Node Name Attributes: key, non-creatable, non-modifiable
node-uuid		uuid optional	Node UUID Attributes: key, non-creatable, non-modifiable
status		cluster-op-status optional	The Status of Current Task Being Performed Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "starting_job" - Starting Add-Node Job, • "node_discovery" - Node Discovery, • "remote_join_started" - Job Started Remote Join Op, • "node_initialization" - Node Initialization, • "joining_cluster" - Joining Cluster, • "service_startup" - Service Startup, • "post_cluster_setup" - Post Cluster Setup, • "success" - Task Completed, • "failure" - Task Failed

Element definition: **cluster-create-join-progress-info**

[top]

Information that identifies the state or a create or join operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-status-message		string optional	The current status of the create or join operation being performed. Attributes: non-creatable, non-modifiable
is-complete		boolean optional	If this is true, it means that the operation has been successfully completed. If it is false, the state of the operation is determined by the status field Attributes: non-creatable, non-modifiable
status		cluster-op-enum-result optional	This field helps to determine the state of the operation when 'complete' is false. When complete is false and the status is success it indicates the operation hasn't started yet. Attributes: non-creatable, non-modifiable Possible values: • "failed" - Operation failed, • "success" - Operation was successful, • "ongoing" - Operation is active

Element definition: **cluster-identity-info**

[top]

Information that identifies a given cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-contact		string optional	The contact information for the cluster Attributes: non-creatable, modifiable
cluster-location		string optional	The location of the cluster Attributes: non-creatable, modifiable
cluster-name		cluster-name-simple optional	The textual name of the cluster Attributes: non-creatable, modifiable
cluster-serial-number		cluster-serial-number optional	Serial number of the cluster in the form x-xx-xxxxxx Attributes: non-creatable, non-modifiable

cluster-uuid		uuid optional	The 128-bit universally-unique identifier, that designates the cluster forever, assigned during cluster creation Attributes: non-creatable, non-modifiable
rdb-uuid		uuid optional	The 128-bit universally-unique identifier for the RDB Attributes: non-creatable, non-modifiable

Element definition: **cluster-log-forward-info**

[top]

Log file forwarding configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destination		remote-inet-address optional	Destination address that the log messages will be forwarded to. Can be a hostname or IP address. Attributes: key, required-for-create, non-modifiable
facility		syslog-facility optional	Facility code used to indicate the type of software that generated the message. Attributes: optional-for-create, modifiable Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3, • "local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
force		boolean optional	Skip the Connectivity Test Attributes: optional-for-create, non-modifiable
ipspace		string optional	The IP space of the destination to forward the message. Attributes: optional-for-create, modifiable
port	**[1..65535]**	integer optional	The destination port used to forward the message. Attributes: key, optional-for-create, non-modifiable
protocol		log-fwd-proto optional	Log Forwarding Protocol Attributes: optional-for-create, non-modifiable Possible values: • "udp_unencrypted" - UDP unencrypted, • "tcp_unencrypted" - TCP unencrypted, • "tcp_encrypted" - TCP encrypted
verify-server		boolean optional	Verify Destination Server Identity Attributes: optional-for-create, modifiable

Element definition: **cluster-log-forward-statistics**

[top]

Log file forwarding statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destination		remote-inet-address optional	Destination Host Attributes: key, non-creatable, non-modifiable
dropped-count	**[0..2^64-1]**	integer optional	Count of Dropped Messages Attributes: non-creatable, non-modifiable
facility		syslog-facility optional	Syslog Facility Attributes: non-creatable, non-modifiable Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3, • "local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
failure-count	**[0..2^64-1]**	integer optional	Count of Forwarding Failures Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Destination Index Attributes: key, non-creatable, non-modifiable
last-error		string optional	Last Failure Reason Attributes: non-creatable, non-modifiable
last-success-time		datetimewithtz optional	Time of Last Message Forwarded Attributes: non-creatable, non-modifiable
log		string optional	Log Name Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
port	**[1..65535]**	integer optional	Destination Port Attributes: key, non-creatable, non-modifiable
queue-size	**[0..2^64-1]**	integer optional	Number of Messages in the Queue Attributes: non-creatable, non-modifiable
success-count	**[0..2^64-1]**	integer optional	Count of Forwarding Successes Attributes: non-creatable, non-modifiable
total-tx-failures	**[0..2^64-1]**	integer optional	Total Transmission Failures Attributes: non-creatable, non-modifiable

Element definition: **cluster-name-simple**

[top]

Name of the Cluster

[none]

Element definition: **cluster-node-info**

[top]

Information that identifies state of nodes in a cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-node-eligible		boolean optional	This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable
is-node-epsilon		boolean optional	You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable
is-node-healthy		boolean optional	This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The textual name of a node. Attributes: key, non-creatable, non-modifiable
node-uuid		node-uuid optional	The 128-bit universally-unique identifier, that designates a node forever, assigned during node creation. Attributes: non-creatable, non-modifiable

Element definition: **country-code**

[top]

Country Code Possible values:

- "99" - Unknown,
- "ad" - Andorra,
- "ae" - United Arab Emirates,
- "af" - Afghanistan,
- "ag" - Antigua and Barbuda,
- "ai" - Anguilla,
- "al" - Albania,

- "am" - Armenia,
- "an" - Netherlands Antilles,
- "ao" - Angola,
- "aq" - Antarctia,
- "ar" - Argentina,
- "as" - American Samoa,
- "at" - Austria,
- "au" - Australia,
- "aw" - Aruba,
- "az" - Azerbaijan,
- "ba" - Bosnia and Herzegovina,
- "bb" - Barbados,
- "bd" - Bangladesh,
- "be" - Belgium,
- "bf" - Burkina Faso,
- "bg" - Bulgaria,
- "bh" - Bahrain,
- "bi" - Burundi,
- "bj" - Benin,
- "bm" - Bermuda,
- "bn" - Brunei Darussalem,
- "bo" - Bolivia,
- "br" - Brazil,
- "bs" - Bahamas,
- "bt" - Bhutan,
- "bv" - Bouvet Island,
- "bw" - Botswana,
- "by" - Belarus,
- "bz" - Belize,
- "ca" - Canada,
- "cc" - Cocos (Keeling) Islands,
- "cd" - Congo, The Democratic Republic of the,
- "cf" - Central African Republic,
- "cg" - Congo,
- "ch" - Switzerland,
- "ci" - Cote d'Ivoire,
- "ck" - Cook Islands,
- "cl" - Chile,
- "cm" - Cameroon,
- "cn" - China,
- "co" - Colombia,
- "cr" - Costa Rica,
- "cu" - Cuba,
- "cv" - Cape Verde,
- "cx" - Christmas Island,
- "cy" - Cyprus,
- "cz" - Czech Republic,
- "de" - Germany,
- "dj" - Djibouti,
- "dk" - Denmark,
- "dm" - Dominica,
- "do" - Dominican Republic,
- "dz" - Algeria,
- "ec" - Ecuador,
- "ee" - Estonia,
- "eg" - Egypt,
- "eh" - Western Sahara,
- "er" - Eritrea,
- "es" - Spain,
- "et" - Ethiopia,

"fi" - Finland,
- "fj" - Fiji,
- "fk" - Falkland Islands (Malvinas),
- "fm" - Micronesia, Federated States of,
- "fo" - Faroe Islands,
- "fr" - France,
- "fx" - France Metropolitan,
- "ga" - Gabon,
- "gb" - United Kingdom,
- "gd" - Grenada,
- "ge" - Georgia,
- "gf" - French Guiana,
- "gh" - Ghana,
- "gi" - Gibraltar,
- "gl" - Greenland,
- "gm" - Gambia,
- "gn" - Guinea,
- "gp" - Guadaloupe,
- "gq" - Equatorial Guinea,
- "gr" - Greece,
- "gs" - South Georgia and the South Sandwich Islands,
- "gt" - Guatemla,
- "gu" - Guam,
- "gw" - Guinea-Bissau,
- "gy" - Guyana,
- "hk" - China (Hong Kong S.A.R.),
- "hm" - Heard and McDonald Islands,
- "hn" - Honduras,
- "hr" - Croatia,
- "ht" - Haiti,
- "hu" - Hungary,
- "id" - Indonesia,
- "ie" - Ireland,
- "il" - Israel,
- "in" - India,
- "io" - British Indian Ocean Territory,
- "iq" - Iraq,
- "ir" - Iran,
- "is" - Iceland,
- "it" - Italy,
- "jm" - Jamaica,
- "jo" - Jordan,
- "jp" - Japan,
- "ke" - Kenya,
- "kg" - Kyrgyzstan,
- "kh" - Khmer Rep Cambodia,
- "ki" - Kiribati,
- "km" - Comoros,
- "kn" - Saint Kitts and Nevis,
- "kp" - Korea, Democratic People's Republic of (North Korea),
- "kr" - Korea, Republic of (South Korea),
- "kw" - Kuwait,
- "ky" - Cayman Islands,
- "kz" - Kazakhstan,
- "la" - Lao People's Democratic Republic (Laos),
- "lb" - Lebanon,
- "lc" - Saint Lucia,
- "li" - Liechtenstein,
- "lk" - Sri Lanka,
- "lr" - Liberia,

"ls" - Lesotho,
- "lt" - Lithuania,
- "lu" - Luxembourg,
- "lv" - Latvia,
- "ly" - Libyan Arab Jamahiriya (Lybia),
- "ma" - Morocco,
- "mc" - Monaco,
- "md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,

"sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,
- "sl" - Sierra Leone,
- "sm" - San Marino,
- "sn" - Senegal,
- "so" - Somalia,
- "sr" - Suriname,
- "st" - Sao Tome and Principe,
- "sv" - El Salvador,
- "sy" - Syrian Arab Republic (Syria),
- "sz" - Swaziland,
- "t9" - Service Agent Test Systems T9 XX,
- "tc" - Turks and Caicos Islands,
- "td" - Chad,
- "tf" - French Southern Territories,
- "tg" - Togo,
- "th" - Thailand,
- "tj" - Tajikistan,
- "tk" - Tokelau,
- "tl" - East Timor,
- "tm" - Turkmenistan,
- "tn" - Tunisia,
- "to" - Tonga,
- "tr" - Turkey,
- "tt" - Trinidad And Tobago,
- "tv" - Tuvalu,
- "tw" - Taiwan,
- "tz" - Tanzania,
- "ua" - Ukraine,
- "ug" - Uganda,
- "um" - United States Minor Outlying Islands,
- "us" - United States,
- "uy" - Uruguay,
- "uz" - Uzbekistan,
- "va" - Vatican City State (Holy See),
- "vc" - Saint Vincent and the Grenadines,
- "ve" - Venezuela,
- "vg" - British Virgin Islands,
- "vi" - Virgin Islands (U.S.),
- "vn" - Vietnam,
- "vu" - Vanuatu,
- "wf" - Wallis and Futuna Islands,
- "ws" - Samoa (Western),
- "ye" - Yemen,
- "yt" - Mayotte,
- "yu" - Serbia,
- "za" - South Africa,
- "zm" - Zambia,
- "zw" - Zimbabwe

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **license-code-v2**

[top]

License Code V2

[none]

Element definition: **log-fwd-proto**

[top]

udp-unencrypted|tcp-unencrypted|tcp-encrypted Possible values:

- "udp_unencrypted" - UDP unencrypted,
- "tcp_unencrypted" - TCP unencrypted,
- "tcp_encrypted" - TCP encrypted

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

Element definition: **uri**

[top]

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **zoneinfo-info**

[top]

Timezone Zoneinfo Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
version		string optional	Version of the timezone database in the form YYYYv. \"YYYY\" is the year the database was released and \"v\" is the version within that year. \"YYYY\" will be four decimal digits and \"v\" will be an ASCII letter starting with \"a\" and increasing with each version. For example, the second 2017 version is \"2017b\". Attributes: non-creatable, modifiable

Element definition: **cluster-op-enum-result**

[top]

cluster_op_enum_result Possible values:

- "failed" - Operation failed,
- "success" - Operation was successful,
- "ongoing" - Operation is active

[none]

Element definition: **cluster-op-status**

[top]

Cluster Operation Status Possible values:

- "none" - None,
- "starting_job" - Starting Add-Node Job,
- "node_discovery" - Node Discovery,
- "remote_join_started" - Job Started Remote Join Op,
- "node_initialization" - Node Initialization,
- "joining_cluster" - Joining Cluster,
- "service_startup" - Service Startup,
- "post_cluster_setup" - Post Cluster Setup,
- "success" - Task Completed,
- "failure" - Task Failed

[none]

Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

Element definition: **datetimewithtz**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **node-uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **cluster-image**

cluster-image-get
cluster-image-get-download-progress
cluster-image-get-iter
cluster-image-get-upgrade-plan
cluster-image-metrocluster-update-progress-info-get
cluster-image-node-update-progress-info
cluster-image-package-delete
cluster-image-package-download
cluster-image-package-download-abort
cluster-image-package-local-get
cluster-image-package-local-get-iter
cluster-image-update
cluster-image-update-cancel
cluster-image-update-history-get-iter
cluster-image-update-log-get-iter
cluster-image-update-pause
cluster-image-update-progress-get-iter
cluster-image-update-progress-info
cluster-image-update-resume
cluster-image-validate

This set of APIs enable automated nondisruptive update of a cluster.

cluster-image-get

[top]

Get the attributes of the cluster-image.

Input Name	Range	Type	Description
desired-attributes		cluster-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-id		node-name	Node

Output Name	Range	Type	Description
attributes		cluster-image-info	The attributes of the cluster-image.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-image-get-download-progress

[top]

Check the progress of current image download started by the cluster-image-package-download ZAPI.

Output Name	Range	Type	Description
failure-reason		string optional	Reason for download failure. This field is deprecated in Data ONTAP 9.0.0 and may be removed in a future release.

progress-details		string optional	Download progress details
progress-status		cluster-image-download-status	Download Progress Status

Errno	Description
E_PRIMARY_STORE_UNAVAILABLE	
EINTERNALERROR	

cluster-image-get-iter

[top]

Iterate over a list of cluster-image objects.

Input Name	Range	Type	Description
desired-attributes		cluster-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-image-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-image-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-get-upgrade-plan

[top]

The cluster-image-get-upgrade-plan API generates an Upgrade Plan and Backout Plan for the specified target image. The target package-version must be provided.

Input Name	Range	Type	Description
package-version		string	Specifies the target package version.

Output Name	Range	Type	Description
backout-phase-info-list		phase-info[] optional	List of revert or downgrade plan phases.
backout-plan-head		string optional	Backout plan heading.
upgrade-phase-info-list		phase-info[] optional	List of upgrade plan phases.
upgrade-plan-head		string optional	Upgrade plan heading.

Errno	Description
E_CONF_NOT_SUPPORTED	
E_IMAGES_UNAVAILABLE	
E_RULES_XML_ERROR	
E_GET_PLAN_FAILED	
E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND	
E_PACKAGE_STORE_IS_EMPTY	
E_UPGRADE_PLAN_WITH_REVERT_IMAGE	

cluster-image-metrocluster-update-progress-info-get

[top]

Get information on cluster image update progress for MetroCluster

Input Name	Range	Type	Description
desired-attributes		metrocluster-ndu-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-ndu-progress-info	The attributes of the cluster-image.

Errno	Description
EINTERNALERROR	
E_UPDATE_NOT_IN_PROGRESS	

cluster-image-node-update-progress-info

[top]

Get information on a node's image update progress

Input Name	Range	Type	Description
desired-attributes		node-update-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	Node name.

Output Name	Range	Type	Description
attributes		node-update-progress-info	The attributes of the cluster-image.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	

cluster-image-package-delete

[top]

The cluster-image-package-delete API removes the given package from the cluster image package repository.

Input Name	Range	Type	Description
package-version		string	The package version to be deleted. Example of package versions - 8.3

Errno	Description
E_VALIDATION_IN_PROGRESS	
E_UPDATE_IN_PROGRESS	
E_PACKAGE_SYNCH_IN_PROGRESS	
E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND	
E_PACKAGE_STORE_IS_EMPTY	

cluster-image-package-download

[top]

The cluster-image-package-download API downloads the specified package. This API is asynchronous and returns immediately after the download is started. The download progress can be monitored by calling cluster-image-get-download-progress ZAPI. The package-url string must be provided.

Input Name	Range	Type	Description
package-url		string	Specifies the package URL.

Errno	Description
E_CAPABILITY_NOT_CLUSTERWIDE	
E_CAPABILITY_CHECK_FAILED	
E_PACKAGE_EXISTS	
E_INVALID_URL	
E_PACKAGE_PROCESS_ERROR	
E_PRIMARY_STORE_UNAVAILABLE	
E_INSUFFICIENT_STORES	

cluster-image-package-download-abort

[top]

Abort an ongoing package download operation.

Errno	Description
EINTERNALERROR	
E_PKG_DOWNLOAD_NOTRUNNING	

cluster-image-package-local-get

[top]

The cluster-image-package-local-get API retrieves detailed information about a package located in the cluster image package repository.

Input Name	Range	Type	Description
desired-attributes		cluster-image-package-local-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
package-version		string	Package version.

Output Name	Range	Type	Description

attributes		cluster-image-package-local-info	The attributes of the cluster-image.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-image-package-local-get-iter

[top]

Get multiple locally available package records

Input Name	Range	Type	Description
desired-attributes		cluster-image-package-local-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-image-package-local-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-image-package-local-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update

[top]

The cluster-image update API validates, installs prerequisite component updates, and installs Data ONTAP to all specified nodes within a cluster in a nondisruptive manner. Since validation, which is run as part of update, requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

Input Name	Range	Type	Description
estimate-only		boolean optional	Generates an estimate of the time required for the overall update operation for the specified package. No update is performed when this option is used. Default: false.
force-rolling		boolean optional	Force a rolling upgrade on the cluster. This option is not applicable for a single-node cluster and for a two-node MetroCluster. Default: false.
ignore-validation-warning		boolean optional	Allows the update to continue if warnings are encountered during the validation phase. Default: false.
nodes		node-name[] optional	List of nodes to be updated, the nodes have to be a part of a HA Pair.
package-version		string	Specifies the package version.
pause-after		non-disruptive-update-pause-after optional	One or more pause options can be specified. Possible values: none, all.

stabilize-minutes		integer optional	Number of minutes needed to stabilize node before update. This option is not applicable for single-node cluster. Default: 8.

Output Name	Range	Type	Description
estimated-post-update-duration		integer optional	Estimated post-update checks duration, in seconds. Available only if estimate-only is true.
estimated-pre-update-duration		integer optional	Estimated pre-update checks duration, in seconds. Available only if estimate-only is true.
estimated-update-duration		integer optional	Estimated ontap updates duration, in seconds. Available only if estimate-only is true.

Errno	Description
E_CAPABILITY_NOT_CLUSTERWIDE	
E_CAPABILITY_CHECK_FAILED	
E_UPDATE_IN_PROGRESS	
E_INVALID_HA_PAIR_LIST	
E_VALIDATION_CHECKS_FAILED_WITH_WARNING	
E_VALIDATION_CHECKS_FAILED_WITH_ERROR	
EINTERNALERROR	
E_DOUBLE_HOP_NODES_UNSUPPORTED	

cluster-image-update-cancel

[top]

The cluster-image-update-cancel API cancels a package update that is currently in progress. The update will stop and be canceled at the end of the current logical operation. Logical operations are: - After the cluster validation, or prerequisite update phase - After the update of each HA pair - Immediately, if the update is currently paused After the successful completion of this command the update will be removed from the package update queue. The cancellation will be logged in the update history.

Errno	Description
E_UPDATE_NOT_IN_PROGRESS	
E_CANCEL_NOT_POSSIBLE	

cluster-image-update-history-get-iter

[top]

Get multiple update history records.

Input Name	Range	Type	Description
desired-attributes		cluster-update-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-update-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-update-history-info[] optional	The list of attributes of cluster-image objects.

next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update-log-get-iter

[top]

Get multiple update logs

Input Name	Range	Type	Description
desired-attributes		cluster-update-transaction-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-update-transaction-log-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-update-transaction-log-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update-pause

[top]

The cluster-image-update-pause API pauses an update that is in progress. The update will pause at the end of the current logical operation. Logical operations include: - After the cluster validation, or prerequisite update phase - After the update of each node After the successful completion of this command the currently running update will be paused at the end of the current logical operation.

Errno	Description
E_UPDATE_NOT_IN_PROGRESS	
E_PAUSE_NOT_POSSIBLE	

cluster-image-update-progress-get-iter

[top]

This API provides the status of all phases of update that is in progress.

Input Name	Range	Type	Description
desired-attributes		cluster-image-ndu-phase-list-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-image-ndu-phase-list-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-image-ndu-phase-list-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update-progress-info

[top]

Get information on cluster image update progress

Input Name	Range	Type	Description
desired-attributes		ndu-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		ndu-progress-info	The attributes of the cluster-image.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-image-update-resume

[top]

The cluster-image-update-resume API resumes a package update that is currently paused. If the update is not in the paused state the API call will fail. After the successful completion of this command the current paused update will resume from the last successful operation completed.

Input Name	Range	Type	Description
ignore-post-update-checks-failures		boolean optional	Ignore post-update-check phase failures, if any. Default: false.
skip-firmware-update-checks		boolean optional	Skip Firmware Update Status Checks. Default: false.

Errno	Description
E_UPDATE_NOT_IN_PROGRESS	
E_RESUME_NOT_POSSIBLE	
E_PUC_NOT_IN_PROGRESS	

cluster-image-validate

[top]

The cluster-image-validate API validates the various logical and physical components of a cluster to ensure that a nondisruptive update can occur. Since validation requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

Input Name	Range	Type	Description
nodes		node-name[] optional	Nodes
package-version		string	Specifies the package version.

Output Name	Range	Type	Description
cluster-image-validation-report-list		cluster-image-validation-report-list-info[] optional	Lists the status and required actions for each NDU check involved in the update process.

Errno	Description
E_VERSION_NOT_SUPPORTED	
E_CAPABILITY_NOT_CLUSTERWIDE	
E_CAPABILITY_CHECK_FAILED	
E_VALIDATION_IN_PROGRESS	
E_PACKAGE_DELETE_IN_PROGRESS	
E_IMAGES_UNAVAILABLE	
E_MISSING_PARTNER_ERROR	
E_UPDATE_IN_PROGRESS	

Element definition: **cluster-image-download-status**

[top]

async_pkg_get_phase_failed|async_pkg_get_phase_running|async_pkg_get_phase_timedout|async_pkg_get_phase_notstarted|async_pkg_get_phase_complete|async_pkg_get_phase_aborted
Possible values:

- "async_pkg_get_phase_failed" - Download Failed,
- "async_pkg_get_phase_running" - Download in Progress,
- "async_pkg_get_phase_timedout" - Download Timedout,
- "async_pkg_get_phase_notstarted" - Download not started or no download in progress,
- "async_pkg_get_phase_complete" - Download Successful,
- "async_pkg_get_phase_aborted" - Download Aborted

[none]

Element definition: **cluster-image-info**

[top]

Information to manage cluster images for Non disruptive-update. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with

no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-version		string optional	Current Version Attributes: non-creatable, non-modifiable
date-installed		datetime optional	Date Installed Attributes: non-creatable, non-modifiable
node-id		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-image-ndu-phase-list-info**

[top]

Status and required recovery action for each phase of update process When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
duration		string optional	The estimated duration for phases not completed and actual duration for those completed in seconds. Attributes: non-creatable, non-modifiable
ndu-phase		non-disruptive-update-phase optional	Update phase Attributes: key, non-creatable, non-modifiable Possible values: • "validation" - NDU validation phase, • "prereq_updates" - NDU prerequisite phase, • "ontap_updates" - Data ONTAP update phase, • "package_management" - Package management operations phase, • "default_phase" - Default Phase, • "post_update_checks" - Post update checks phase
phase-comments		string optional	If an error has occurred the required recovery action. If the phase is completed the duration of the phase will be provided. Attributes: non-creatable, non-modifiable
phase-status		non-disruptive-update-status optional	Phase status Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending

Element definition: **cluster-image-package-local-info**

[top]

Detailed information on the local package When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
package-build-time		datetime optional	Package build time. Attributes: non-creatable, non-modifiable
package-details		package-details-info[] optional	Lists detailed on the local packages located in the cluster image package repository
package-version		string optional	Package version. Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-image-validation-report-list-info**

[top]

Lists the status and required actions for each NDU check involved in the update process. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ndu-check		string optional	Type of NDU check Attributes: key, non-creatable, non-modifiable
ndu-status		string optional	Phase status Possible values: ok failed warning Attributes: non-creatable, non-modifiable
required-action		required-action-info optional	If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update

Element definition: **cluster-update-history-info**

[top]

Detailed report for each update When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
completion-time		datetime optional	Date and time update completed. Attributes: non-creatable, non-modifiable
component-id		string optional	Component ID Attributes: key, non-creatable, non-modifiable
component-name		string optional	Component name Attributes: non-creatable, non-modifiable
package-version		string optional	Installed package version. Attributes: non-creatable, non-modifiable
previous-version		string optional	Previous version of firmware or software Attributes: non-creatable, non-modifiable
start-time		datetime optional	Date and time update started. Attributes: key, non-creatable, non-modifiable
update-status		non-disruptive-update-history-status optional	Update status. Attributes: non-creatable, non-modifiable Possible values: • "successful" - Update completed successfully, • "canceled" - Update was canceled, • "back_out" - A back-out occurred do to a unrecoverable error

updated-version		string optional	Updated version of firmware or software Attributes: non-creatable, non-modifiable

Element definition: **cluster-update-transaction-log-info**

[top]

Detailed report for each update transaction When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
component-id		node-name optional	Component ID. Attributes: key, non-creatable, non-modifiable
detailed-transaction-status		string optional	Includes sub-transaction name and detailed status Attributes: non-creatable, non-modifiable
start-date-time		datetime optional	Date and time update started Attributes: non-creatable, non-modifiable
transaction-id	[0..2^64-1]	integer optional	Unique transaction ID. Attributes: key, non-creatable, non-modifiable
transaction-name		non-disruptive-update-task-name optional	Transaction name. Attributes: key, non-creatable, non-modifiable Possible values: • "initialize" - Initialization, • "mount_image" - Mount an image, • "restart_hm" - Restart Health Monitor, • "get_health" - Obtain System Health, • "run_scripts" - Run validation sctipts, • "unmount_image" - Unmount image, • "clear_alert" - Clear Alerts, • "post_restart_hm" - Post validation restart Health Monitor, • "cleanup_rdb" - Removes all rows for a given phase, • "synch_image" - Synchronize Secondary Store with Primary, • "process_package" - Process the package retrieved from external source, • "cleanup_package" - Removes the packages not currently in the image table, • "do_download_job" - Downloads the image to the boot device, • "do_failover_job" - Do the takeover, • "do_giveback_job" - Do the giveback, • "check_progress" - Check the progress of any running tasks, • "complete_validation" - Generate the final validation report, • "invalid_task" - Used by state machine when a valid task cannot be found, • "default_task" - Default Task, • "do_postupdate_checks_job" - Do the post update checks, • "do_disruptive_update_task" - Do disruptive update of node
transaction-phase		non-disruptive-update-phase optional	Transaction phase Attributes: key, non-creatable, non-modifiable Possible values: • "validation" - NDU validation phase, • "prereq_updates" - NDU prerequisite phase, • "ontap_updates" - Data ONTAP update phase, • "package_management" - Package management operations phase, • "default_phase" - Default Phase, • "post_update_checks" - Post update checks phase
transaction-status		non-disruptive-update-log-status	Update status Attributes: non-creatable, non-modifiable Possible values: • "waiting" - Transaction is waiting, • "started" - Transaction was started, • "completed" - Transaction has completed, • "paused_on_error" - Transaction has been paused due to an error,

		optional	• "paused_by_user" - Transaction has been paused by user, • "pause_pending" - Transaction has a pending pause request, • "cancel_pending" - Transaction has a pending cancel request, • "canceled" - Transaction has been canceled by user, • "failed" - Transaction has failed

Element definition: **metrocluster-ndu-progress-info**

[top]

Nondisruptive Update Progress Info of MetroCluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
completed-node-count	**[0..2^32-1]**	integer optional	Number of Completed Nodes Attributes: non-creatable, non-modifiable
dr-validation-reports		dr-validation-report-info[] optional	DR cluster Validation Report Info
intermediate-version		string optional	The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable
is-two-stage-upgrade		boolean optional	If upgrade is two-stage. Attributes: non-creatable, non-modifiable
is-validation-done-by-update		boolean optional	Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable
metrocluster		cluster-image-metrocluster-info optional	MetroCluster Information
ndu-node-update-list		ndu-node-update-info[] optional	Nondisruptive Update Progress Info of Node
node-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable
overall-elapsed-duration	**[0..2^32-1]**	integer optional	Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable
overall-estimated-duration	**[0..2^32-1]**	integer optional	Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable
overall-status		string optional	Status of overall update. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
package-version		string optional	The package version. Attributes: non-creatable, non-modifiable
paused-node-count	**[0..2^32-1]**	integer optional	Number of Paused Nodes Attributes: non-creatable, non-modifiable
phase-comments		phase-comment-info optional	Overall comment info
		string	

progress-detail		optional	Failure details Attributes: non-creatable, non-modifiable
progress-summary		string optional	Progress info Attributes: non-creatable, non-modifiable
source-version		string optional	The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable
target-version		string optional	The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable
total-node-count	**[0..2^32-1]**	integer optional	Number of Nodes Attributes: non-creatable, non-modifiable
upgrade-stage	**[1..2]**	integer optional	Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable
validation-reports		validation-report-info[] optional	Local cluster Validation Report Info

Element definition: **ndu-progress-info**

[top]

Nondisruptive Update Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
completed-node-count	**[0..2^32-1]**	integer optional	Number of nodes that have completed update. Attributes: non-creatable, non-modifiable
intermediate-version		string optional	The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable
is-two-stage-upgrade		boolean optional	If upgrade is two-stage. Attributes: non-creatable, non-modifiable
is-validation-done-by-update		boolean optional	Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable
ndu-node-update-list		ndu-node-update-info[] optional	Nondisruptive Update Progress Info of a Node
node-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable
overall-elapsed-duration	**[0..2^32-1]**	integer optional	Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable
overall-estimated-duration	**[0..2^32-1]**	integer optional	Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable
overall-status		non-disruptive-update-status optional	Status of overall update. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
package-version		string optional	The package version. Attributes: non-creatable, non-modifiable
paused-node-count	**[0..2^32-1]**	integer optional	Number of nodes that have paused during update. Attributes: non-creatable, non-modifiable

phase-comments		phase-comment-info optional	Overall comment info
source-version		string optional	The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable
target-version		string optional	The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable
total-node-count	**[0..2^32-1]**	integer optional	Number of nodes participating in update operation. Attributes: non-creatable, non-modifiable
upgrade-stage	**[1..2]**	integer optional	Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable
validation-reports		validation-report-info[] optional	Validation Report Info

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-update-progress-info**

[top]

Node Update progress details When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node-name		string optional	Node name. Attributes: key, non-creatable, non-modifiable
node-update-task-info-list		node-update-task-info[] optional	Node task info

Element definition: **non-disruptive-update-pause-after**

[top]

none|takeover-giveback|all Possible values:

- "none" - Default: No pause,
- "takeover_giveback" - Pause after takeover or giveback tasks,
- "all" - Pause after all phases

[none]

Element definition: **phase-info**

[top]

Upgrade or revert procedure can have planning, preparing, update and post-update phases. Each phase will have the phase details and list of steps.

Name	Range	Type	Description
phase-detail		string optional	Phase details.
phase-head		string optional	Phase heading.
phase-notes		string optional	Phase notes.
step-info-list		step-info[] optional	List of steps in the respective phase.

Element definition: **cluster-image-metrocluster-info**

[top]

MetroCluster Configuration Information

Name	Range	Type	Description
cluster-elapsed-duration	**[0..2^32-1]**	integer optional	Elapsed amount of time, in seconds, used for the update in local cluster. Attributes: non-creatable, non-modifiable
cluster-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update in local cluster. Attributes: non-creatable, non-modifiable
cluster-name		string optional	Name of the local cluster. Attributes: non-creatable, non-modifiable
cluster-status		string optional	Status of the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
dr-cluster-elapsed-duration	**[0..2^32-1]**	integer optional	Elapsed amount of time, in seconds, used for the update in DR cluster. Attributes: non-creatable, non-modifiable
dr-cluster-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update in DR cluster. Attributes: non-creatable, non-modifiable
dr-cluster-name		string optional	Name of the DR cluster. Attributes: non-creatable, non-modifiable
dr-cluster-status		string optional	Status of the DR cluster. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **dr-validation-report-info**

[top]

DR Validation Info

Name	Range	Type	Description
dr-update-check-action		string optional	DR cluster recovery action for error. Attributes: non-creatable, non-modifiable
dr-update-check-advice		string optional	DR cluster advice for handling the error. Attributes: non-creatable, non-modifiable
dr-update-check-error		string optional	DR cluster error details. Attributes: non-creatable, non-modifiable
dr-update-check-name		string optional	DR cluster update check Attributes: non-creatable, non-modifiable
dr-update-check-status		string optional	DR cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable

Element definition: **ndu-node-update-info**

[top]

Nondisruptive Update Progress Info of Node

Name	Range	Type	Description
dr-node-elapsed-duration		timeticks optional	Elapsed Update Duration of a DR Node Attributes: non-creatable, non-modifiable
dr-node-name		node-name optional	DR Node Name Attributes: non-creatable, non-modifiable
dr-node-status		non-disruptive-update-status optional	DR Node Status Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
node-elapsed-duration		timeticks optional	Elapsed amount of time, in seconds, used for the update of a node. Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node Name Attributes: non-creatable, non-modifiable
node-status		non-disruptive-update-status optional	Node Status Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-update-task-info**

[top]

Node task info

Name	Range	Type	Description
task-comments		string optional	Summary of task operation. Attributes: non-creatable, non-modifiable
task-end-time		datetime optional	Time at which the task completed. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable
task-name		string optional	Name of the task. Attributes: non-creatable, non-modifiable
task-start-time		datetime optional	Time at which the task started. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable
task-status		non-disruptive-update-task-status optional	Status of the associated task-name. Attributes: non-creatable, non-modifiable Possible values: • "created" - Task has been created, • "ready_to_run" - Task ready to run, • "running" - Task has started and is running, • "completed" - Task is completed, • "failed" - Task failed to complete, • "pause_req" - Request for task to be paused, • "paused" - Task is paused, • "paused_error" - Task is paused because of an error, • "cancel_req" - Request for task to be cancelled, • "canceled" - Task is canceled, • "resume_req" - Request for paused task to be resumed, • "default_status" - Defaiult Status, • "abort_req" - Request for task to be aborted

Element definition: **non-disruptive-update-history-status**

[top]

successful|canceled|back-out Possible values:

- "successful" - Update completed successfully,
- "canceled" - Update was canceled,
- "back_out" - A back-out occurred do to a unrecoverable error

[none]

Element definition: **non-disruptive-update-log-status**

[top]

waiting|started|completed|paused-on-error|paused-by-user|pause-pending|cancel-pending|canceled|failed Possible values:

- "waiting" - Transaction is waiting,

- "started" - Transaction was started,
- "completed" - Transaction has completed,
- "paused_on_error" - Transaction has been paused due to an error,
- "paused_by_user" - Transaction has been paused by user,
- "pause_pending" - Transaction has a pending pause request,
- "cancel_pending" - Transaction has a pending cancel request,
- "canceled" - Transaction has been canceled by user,
- "failed" - Transaction has failed

[none]

Element definition: **non-disruptive-update-phase**

[top]

validation|prereq-updates|ontap-updates|package-management|default-phase|post-update-checks Possible values:

- "validation" - NDU validation phase,
- "prereq_updates" - NDU prerequisite phase,
- "ontap_updates" - Data ONTAP update phase,
- "package_management" - Package management operations phase,
- "default_phase" - Default Phase,
- "post_update_checks" - Post update checks phase

[none]

Element definition: **non-disruptive-update-status**

[top]

in-progress|waiting|paused-by-user|paused-on-error|completed|canceled|failed|pause-pending|cancel-pending Possible values:

- "in_progress" - Upgrade phase is in progress,
- "waiting" - Upgrade phase is waiting,
- "paused_by_user" - Upgrade phase paused by user,
- "paused_on_error" - Upgrade phase paused due to error,
- "completed" - Upgrade phase completed,
- "canceled" - Upgrade phase canceled,
- "failed" - Upgrade phase failed,
- "pause_pending" - Upgrade phase pause pending,
- "cancel_pending" - Upgrade phase cancel pending

[none]

Element definition: **non-disruptive-update-task-name**

[top]

initialize|mount-image|restart-hm|get-health|run-scripts|unmount-image|clear-alert|post-restart-hm|cleanup-rd|synch-image|do-download-job|do-failover-job|do-giveback-job|check-progress|complete-validation|invalid-task|default-task|do-postupdate-checks-task Possible values:

- "initialize" - Initialization,
- "mount_image" - Mount an image,
- "restart_hm" - Restart Health Monitor,
- "get_health" - Obtain System Health,
- "run_scripts" - Run validation sctipts,
- "unmount_image" - Unmount image,
- "clear_alert" - Clear Alerts,
- "post_restart_hm" - Post validation restart Health Monitor,
- "cleanup_rdb" - Removes all rows for a given phase,

- "synch_image" - Synchronize Secondary Store with Primary,
- "process_package" - Process the package retrieved from external source,
- "cleanup_package" - Removes the packages not currently in the image table,
- "do_download_job" - Downloads the image to the boot device,
- "do_failover_job" - Do the takeover,
- "do_giveback_job" - Do the giveback,
- "check_progress" - Check the progress of any running tasks,
- "complete_validation" - Generate the final validation report,
- "invalid_task" - Used by state machine when a valid task cannot be found,
- "default_task" - Default Task,
- "do_postupdate_checks_job" - Do the post update checks,
- "do_disruptive_update_task" - Do disruptive update of node

[none]

Element definition: **package-details-info**

[top]

Lists detailed on the local packages located in the cluster image package repository

Name	Range	Type	Description
component-name		string optional	Name of the given component. Attributes: non-creatable, non-modifiable
component-version		string optional	The software version number of the given component. Attributes: non-creatable, non-modifiable

Element definition: **phase-comment-info**

[top]

Overall comment

Name	Range	Type	Description
post-update-checks-phase-comments		string optional	Post Update Check Phase Comments Attributes: non-creatable, non-modifiable
update-phase-comments		string optional	Summary of update operation. Attributes: non-creatable, non-modifiable
validation-phase-comments		string optional	Summary of validation operation. Attributes: non-creatable, non-modifiable

Element definition: **required-action-info**

[top]

If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update

Name	Range	Type	Description
action		string optional	Recovery action for error. Attributes: non-creatable, non-modifiable
advice		string optional	Advice for handling the error. Attributes: non-creatable, non-modifiable
error		string optional	Error description. Attributes: non-creatable, non-modifiable

Element definition: **step-info**

[top]

A prepare step, upgrade/revert step or post upgrade step based on the phase.

Name	Range	Type	Description
step-command		string optional	A CLI command associated with the step.
step-detail		string optional	Step details.
step-example		string optional	An example associated with the step.
step-name		string optional	Step heading or name.
step-notes		string optional	Any notes associated with the step.

Element definition: **validation-report-info**

[top]

Validation Info

Name	Range	Type	Description
update-check-action		string optional	Local cluster recovery action for error. Attributes: non-creatable, non-modifiable
update-check-advice		string optional	Local cluster advice for handling the error. Attributes: non-creatable, non-modifiable
update-check-error		string optional	Local cluster error details. Attributes: non-creatable, non-modifiable
update-check-name		string optional	Local cluster update check Attributes: non-creatable, non-modifiable
update-check-status		string optional	Local cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **non-disruptive-update-task-status**

[top]

created|ready-to-run|running|completed|failed|pause_req|paused|paused-error|cancel_req|canceled|resume_req|default_status Possible values:

- "created" - Task has been created,
- "ready_to_run" - Task ready to run,
- "running" - Task has started and is running,
- "completed" - Task is completed,
- "failed" - Task failed to complete,
- "pause_req" - Request for task to be paused,
- "paused" - Task is paused,
- "paused_error" - Task is paused because of an error,
- "cancel_req" - Request for task to be cancelled,

"canceled" - Task is canceled,
- "resume_req" - Request for paused task to be resumed,
- "default_status" - Defaiult Status,
- "abort_req" - Request for task to be aborted

[none]

Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

APIs in Category: **cluster-peer**

cluster-peer-authn-offer-cancel
cluster-peer-authn-offer-get
cluster-peer-authn-offer-get-iter
cluster-peer-authn-offer-modify
cluster-peer-connection-destroy
cluster-peer-connections-get
cluster-peer-connections-get-iter
cluster-peer-create
cluster-peer-delete
cluster-peer-get
cluster-peer-get-iter
cluster-peer-health-info-get
cluster-peer-health-info-get-iter
cluster-peer-modify
cluster-peer-modify-local-name
cluster-peer-ping-iter
cluster-peer-policy-get
cluster-peer-policy-modify

This set of ZAPIs allows management of cluster peer relationships. Cluster peer relationships are required to allow multiple Data ONTAP clusters to exchange data with other Data ONTAP clusters and request operations to be executed by other Data ONTAP clusters.

cluster-peer-authn-offer-cancel

[top]

Cancel the outstanding offer to authenticate with a peer cluster

Input Name	Range	Type	Description
peer-cluster-name		string	Peer Cluster Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-authn-offer-get

[top]

Return the specified peer cluster relationship authentication offer information

Input Name	Range	Type	Description
desired-attributes		cluster-peer-authn-offer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-cluster-name		string	Peer Cluster Name

Output Name	Range	Type	Description
attributes		cluster-peer-authn-offer	The attributes of the cluster-peer-authn-offer.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-authn-offer-get-iter

[top]

Returns a list of cluster peer relationship authentication offers

Input Name	Range	Type	Description
desired-attributes		cluster-peer-authn-offer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-authn-offer optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-authn-offer object. All cluster-peer-authn-offer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-authn-offer[] optional	The list of attributes of cluster-peer-authn-offer objects.
next-tag		string	Tag for the next call. Not present when there are no more cluster-

		optional	peer-authn-offer objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-authn-offer-modify

[top]

Modifies the cluster peer relationship authentication offer, as created by the cluster-peer-create or cluster-peer-modify APIs.

Input Name	Range	Type	Description
initial-allowed-vserver-peers		vserver-name[] optional	Vservers Initially Allowed for Peering
offer-expiration		expiration optional	The expiration time of the authentication offer.
peer-cluster-name		string	The name of the peer cluster to modify.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-connection-destroy

[top]

Terminate a current peering connection

Input Name	Range	Type	Description
connection-type		cluster-peer-connection-type	The type of connection for cluster peering.
file-descriptor	**[0..2^64-1]**	integer	The index value for the connection.
node-name		node-name	The name of the node that has the connections involved.
peer-cluster-name		string	The name of the peer cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-connections-get

[top]

Return information about the specified connection to the specified cluster peer

Input Name	Range	Type	Description
connection-type		cluster-peer-connection-type	The type of connection for cluster peering.
desired-attributes		cluster-peer-connections optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
file-descriptor	**[0..2^64-1]**	integer	The index value for the connection.
node-name		node-name	The name of the node that has the connections involved.
peer-cluster-name		string	The name of the peer cluster.

Output Name	Range	Type	Description
attributes		cluster-peer-connections	The attributes of the cluster-peer-connections.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-connections-get-iter

[top]

Returns a list of connections to cluster peers

Input Name	Range	Type	Description
desired-attributes		cluster-peer-connections optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-connections optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-connections object. All cluster-peer-connections objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-connections[] optional	The list of attributes of cluster-peer-connections objects.

next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer-connections objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-create

[top]

Create a cluster peer relationship and, optionally, an offer to authenticate with a peer. Initiate an authenticated relationship, and an offer to authenticate with a peer, by including the passphrase parameter. Initiate an unauthenticated relationship by omitting the passphrase and, optionally, including a user-name and password.

Input Name	Range	Type	Description
address-family		cluster-peer-address-family optional	The address family (IPv4/IPv6) of the peer cluster connection. If not provided and ambiguity between IPv4 and IPv6 exists, the peer connection address family will default to IPv4. Default: ipv4
applications		vserver-peer-permission-application[] optional	List of peering applications for initial allowed vservers.
encryption-protocol-proposed		cluster-peer-crypt optional	Encryption protocol to be used for inter-cluster communication. Default: tls-psk when authentication is used, otherwise none
generate-passphrase		boolean optional	Use System-Generated passphrase
initial-allowed-vserver-peers		vserver-name[] optional	Vservers allowed for auto peering
ipspace-name		string optional	IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace
local-name		cluster-name-simple optional	Local name for remote cluster. Default: Remote cluster name
offer-expiration		expiration optional	If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future
passphrase		string optional	The arbitrary passphrase that matches the one given to the peer cluster.
password		string optional	The password required to authenticate with the peer cluster. This value is only used at peer creation time and not stored.
peer-addresses		remote-inet-address[] optional	The remote intercluster addresses and hostnames of the peer cluster.
rpc-connect-timeout		integer optional	The timeout for RPC Connect attempts to the peer cluster in seconds. Default: 10
		integer	The timeout for operations in the peer cluster in seconds. Default:

timeout		optional	15
update-ping-timeout		integer optional	The timeout used by ICMP pings while updating peer cluster information in seconds. Default: 5
user-name		string optional	The user name required to authenticate with the peer cluster. This value is only used at peer creation time and not stored.

Output Name	Range	Type	Description
passphrase-info		cluster-peer-passphrase-info optional	Cluster Peer Create Passphrase Information

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EAUTHENTICATION_REQUIRED_BY_POLICY	
EPEER_INTRO_FAILED	
EPEER_PROBE_FAILED	
EPEER_CONCUR_FAILED	
EPEER_INTRO_CONNECT_FAILED	
EPEER_PROBE_CONNECT_FAILED	
EPEER_CONCUR_CONNECT_FAILED	
EPEER_ADDR_MISMATCH_WITH_EXISTING	
EPEER_NO_LOCAL_VIF_FAMILY	
EPEER_CREATE_FAMILY_MISMATCH	
EPEER_PEER_ADDR_FAMILY_MISMATCH	
EPEER_VERSION_MISMATCH	
EPEER_DUPLICATE_PEER_NAME	
EPEER_INVALID_CREATE_ADDRESS_FAMILY_INTRO	
EPEER_INVALID_CREATE_ADDRESS_FAMILY	
EPEER_REMOTE_CREATE_FAMILY_MISMATCH	
EPEER_REMOTE_NO_LOCAL_VIF_FAMILY	
EPEER_INVALID_ADDRESS_FAMILY	
EPEER_REMOTE_SAME_CLUSTER_DIFFERENT_FAMILY	
EPEER_PASSPHRASE_USED_OR_EXPIRED	
EPEER_PASSPHRASE_AUTH_DELAY	
EPEER_PASSPHRASE_SUCCESS	
EPEER_MISSING_INPUT_PARAMETER	
EPEER_VSERVER_NOT_FOUND	
EPEER_EXPIRATION_EXCEEDED_MAX_LIMIT	
EPEER_PASSPHRASE_OFFER_LIMIT_MINIMUM	
EPEER_WITHOUT_IP_AND_AUTO_GEN_PASSPHRASE	
EPEER_PASSPHRASE_CAP_NOT_ENABLED	
EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION	
EPEER_PASSPHRASE_DUPLICATE_LOCAL_NAME	
EPEER_RMT_AUTO_RECIPROCAL_SUPPORT_NOT_AVAILABLE	
EPEER_ENCRYPTION_INCAPABLE_REMOTELY	
EPEER_ENCRYPTION_VETOED_REMOTELY	

EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE	
EPEER_NEED_AUTH_FOR_ENCR	
EPEER_POLICY_FORBIDS_UNAUTH	
EPEER_POLICY_REQUIRES_ENCRYPTION	

cluster-peer-delete

[top]

Delete a cluster peer relationship as well as any an offer to authenticate with the peer cluster.

Input Name	Range	Type	Description
cluster-name		string	The name of the peer cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-peer-get

[top]

Return the specified peer cluster relationship information

Input Name	Range	Type	Description
cluster-name		string	The name of the peer cluster. Available in the local cluster.
desired-attributes		cluster-peer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-peer-info	The attributes of the cluster-peer.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-get-iter

[top]

Returns a list of cluster peer relationships

Input Name	Range	Type	Description
		cluster-	Specify the attributes that should be returned. If not present, all

desired-attributes		peer-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-info[] optional	The list of attributes of cluster-peer objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-health-info-get

[top]

Get the health of the specified peer node

Input Name	Range	Type	Description
desired-attributes		cluster-peer-health-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-cluster		cluster-name	The name of the peer cluster.
destination-node		peer-node-name	The name of the node in the peer cluster.
originating-node		node-name	The name of the local node.

Output Name	Range	Type	Description
attributes		cluster-peer-health-info	The attributes of the cluster-peer.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-health-info-get-iter

[top]

Get the health of all local and peer nodes sequentially

Input Name	Range	Type	Description
desired-attributes		cluster-peer-health-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-health-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-health-info[] optional	The list of attributes of cluster-peer objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-modify

[top]

Modifies a cluster peer relationship, optionally also creating an offer to authenticate with a peer.

Input Name	Range	Type	Description
address-family		address-family optional	The address family of the peer-addresses of the relationship. If not specified, either the specified peer-address or the current peer-address is used to derive the address family.
		cluster-peer-	

auth-status-admin		auth-status-admin optional	The desired state of authentication for the relationship. If not specified, the desired state is not modified.
cluster-name		string	The name of the peer cluster to modify.
encryption-protocol-proposed		cluster-peer-crypt optional	Encryption protocol to be used for inter-cluster communication. If not specified, the encryption-protocol attribute is not modified.
generate-passphrase		boolean optional	Use system-generated passphrase
ipspace-name		string optional	IPspace in which the LIFs for this relationship exist. If not specified, the IPspace for the relationship is not modified.
offer-expiration		expiration optional	For auth-status-admin 'use-authentication', the expiration time of the authentication offer. Should not be provided otherwise.
passphrase		string optional	For auth-status-admin 'use-authentication', this must be provided as the arbitrary passphrase that matches the one given to the peer cluster. Should not be provided otherwise.
peer-addresses		remote-inet-address[] optional	The Remote IP address or host name of the peer cluster. If not specified, the peer-addresses are not modified.
rpc-connect-timeout		integer optional	The timeout for RPC Connect calls to the peer cluster in seconds. If not specified, the timeout is not modified.
timeout		integer optional	The timeout for operations in the peer cluster in seconds. If not specified, the timeout is not modified.
update-ping-timeout		integer optional	The timeout for pings to the peer cluster in seconds. If not specified, the timeout is not modified.

Output Name	Range	Type	Description
passphrase-info		cluster-peer-passphrase-info-modify optional	Cluster Peer Create Passphrase Information

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EAUTHENTICATION_REQUIRED_BY_POLICY	
EPEER_INTRO_FAILED	
EPEER_PROBE_FAILED	
EPEER_CONCUR_FAILED	
EPEER_INTRO_CONNECT_FAILED	
EPEER_PROBE_CONNECT_FAILED	
EPEER_CONCUR_CONNECT_FAILED	
EPEER_MODIFY_FAMILY_MISMATCH	
EPEER_VERSION_MISMATCH	
EPEER_REMOTE_NO_LOCAL_VIF_FAMILY	
EPEER_IC_FAMILY_LIFS_NOT_FOUND	
EPEER_PASSPHRASE_MODIFY_NOT_ALLOWED	
EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION	
EPEER_ENCRYPTION_INCAPABLE_REMOTELY	
EPEER_ENCRYPTION_VETOED_REMOTELY	
EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE	

EPEER_NEED_AUTH_FOR_ENCR	
EPEER_POLICY_FORBIDS_UNAUTH	
EPEER_POLICY_REQUIRES_ENCRYPTION	
EPEER_CHANGING_ENCR_REQUIRES_CHANGING_AUTH	

cluster-peer-modify-local-name

[top]

Modify the local name for a cluster peer.

Input Name	Range	Type	Description
cluster-name		string	The name of the peer cluster to modify.
new-name		cluster-name-simple	The new local name for the peer cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-peer-ping-iter

[top]

Ping the specified peer nodes. Ping operations take place between a node in a cluster and a node in a remote cluster. The originating node is the node which initiates the ping operation and the destination cluster and node specify the remote node which is the target of the ping.

Input Name	Range	Type	Description
desired-attributes		cluster-peer-ping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-ping-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-ping object. All cluster-peer-ping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-ping-info[] optional	The list of attributes of cluster-peer-ping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer-ping objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-policy-get

[top]

Return the cluster peering policy configuration.

Input Name	Range	Type	Description
desired-attributes		cluster-peer-policy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-peer-policy	The attributes of the cluster-peer-policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-policy-modify

[top]

Modify the cluster peering policy configuration.

Input Name	Range	Type	Description
is-unauthenticated-access-permitted		boolean optional	Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted.
is-unencrypted-access-permitted		boolean optional	Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted.
passphrase-minlength		integer optional	Minimum length for a passphrase, integer in [0..1500].

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EPEER_POLICY_CANNOT_REQUIRE_ENCRYPTION	

Element definition: **address-family** [top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

Element definition: **cluster-name-simple** [top]

Name of the Cluster

[none]

Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

Element definition: **cluster-peer-authn-offer** [top]

Authentication Offers to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
auth-status-admin		cluster-peer-auth-status-admin optional	Authentication Status Administrative Attributes: non-creatable, non-modifiable
auth-status-operational		cluster-peer-auth-status-operational optional	Authentication Status Operational Attributes: non-creatable, non-modifiable
encryption-protocol-proposed		cluster-peer-crypt optional	Encryption Protocol to Be Used For the Relationship Attributes: non-creatable, non-modifiable Possible values: • "none" - Encryption Off, • "tls_psk" - Use TLS With PSK
initial-allowed-vserver-peers		vserver-name[] optional	Vservers Initially Allowed for Peering Attributes: non-creatable, modifiable
offer-creation		datetime optional	Authentication Offer Creation Time Attributes: non-creatable, non-modifiable
offer-expiration		expiration optional	Authentication Offer Expiration Time Attributes: non-creatable, modifiable
peer-cluster-name		string optional	Peer Cluster Name Attributes: key, non-creatable, non-modifiable
peer-cluster-uuid		uuid optional	Cluster UUID Attributes: non-creatable, non-modifiable

Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

Element definition: **cluster-peer-connections**

[top]

Connections Established to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	The remote network address for this connection. Attributes: non-creatable, non-modifiable
auth-status-admin		cluster-peer-auth-status-admin optional	The desired status for the authentication of the peer relationship, according to this cluster. Attributes: non-creatable, non-modifiable
auth-status-operational		cluster-peer-auth-status-operational optional	The actual status of the authentication interaction with the peer cluster. Attributes: non-creatable, non-modifiable
authenticated		boolean optional	Whether the client has authenticated itself to the peer cluster on this connection. Attributes: non-creatable, non-modifiable
connection-type		cluster-peer-connection-type optional	The type of connection for cluster peering. Attributes: key, non-creatable, non-modifiable
file-descriptor	**[0..2^64-1]**	integer optional	The index value for the connection. Attributes: key, non-creatable, non-modifiable
idle-time		time-interval optional	The time since the most recent call, in seconds. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The name of the node that has the connections involved. Attributes: key, non-creatable, non-modifiable
peer-cluster-name		string optional	The name of the peer cluster. Attributes: key, non-creatable, non-modifiable
peer-cluster-uuid		uuid optional	The UUID of the peer cluster. Attributes: non-creatable, non-modifiable
port	**[0..2^32-1]**	integer optional	The Internet port to which this file descriptor provides service. Attributes: non-creatable, non-modifiable
psk-algorithm		cluster-peer-keyalgo optional	Algorithm that produced the PSK. Attributes: non-creatable, non-modifiable Possible values: • "akep2" - akep2, • "jpake" - j-pake
rpc-procedure	**[0..2^32-1]**	integer optional	The number of the RPC procedure called most recently on this file descriptor. Attributes: non-creatable, non-modifiable
rpc-program	**[0..2^32-1]**	integer optional	The RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable
rpc-version	**[0..2^32-1]**	integer optional	The version of the RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable
tls-type		conn-kind optional	The kind of TLS connection. Attributes: non-creatable, non-modifiable Possible values: • "unk" - State unknown, • "none" - No TLS, • "psk" - TLS based on a Pre-Shared Key, • "cert" - TLS based on a Certificate
uniquifier	**[0..2^64-1]**	integer optional	The uniquifier of the associated session. Attributes: non-creatable, non-modifiable

Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

Element definition: **cluster-peer-health-info**

[top]

Cluster Peer Health Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bypass-cache		boolean optional	When false, do not use cached results. Cached results may not be current, but they may be retrieved quickly. Attributes: non-creatable, non-modifiable
data-ping		peer-ping-status optional	The status of the data ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values: • "unknown_node" - Unknown Node, • "internal_error" - Internal Error, • "unreachable" - Unreachable, • "session_reachable" - Session Reachable, • "interface_reachable" - Interface Reachable, • "address_family_mismatch" - Address Family Mismatch
destination-cluster		cluster-name optional	The name of the peer cluster. Attributes: key, non-creatable, non-modifiable
destination-cluster-uuid		string optional	The UUID of the peer cluster. Attributes: non-creatable, non-modifiable
destination-node		peer-node-name optional	The name of the node in the peer cluster. Attributes: key, non-creatable, non-modifiable
		peer-	The status of ICMP ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values: • "unknown_node" - Unknown Node,

icmp-ping		ping-status optional	• "internal_error" - Internal Error, • "unreachable" - Unreachable, • "session_reachable" - Session Reachable, • "interface_reachable" - Interface Reachable, • "address_family_mismatch" - Address Family Mismatch
is-cluster-healthy		boolean optional	The status of peer cluster health. Attributes: non-creatable, non-modifiable
is-destination-node-available		boolean optional	True implies that the destination node is available for intercluster communication. Attributes: non-creatable, non-modifiable
is-node-healthy		boolean optional	The RDB health of the node. True means the node is in quorum. Attributes: non-creatable, non-modifiable
last-updated		datetime optional	The date and time when the health information for this node was last updated. Attributes: non-creatable, non-modifiable
originating-node		node-name optional	The name of the local node. Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-peer-info**

[top]

Contains information about the cluster peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active-addresses		remote-inet-address[] optional	The active IP addresses of the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable
address-family		cluster-peer-address-family optional	The address family of the peer cluster connection. Attributes: non-creatable, non-modifiable Possible values: • "ipv4" , • "ipv6"
auth-status-admin		cluster-peer-auth-status-admin optional	The desired status for the authentication of the peer relationship, according to this cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
auth-status-operational		cluster-peer-auth-status-operational optional	The actual status of the authentication interaction with the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable

availability		cluster-peer-avail optional	The status of the peer cluster connection. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable Possible values: • "unavailable" , • "available" , • "partial" , • "pending" , • "unidentified"
cluster-name		string optional	The name of the peer cluster. Available in the local cluster. Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	The UUID of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
encryption-protocol		cluster-peer-crypt optional	Encryption used in the communication for this relationship. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "none" - Encryption Off, • "tls_psk" - Use TLS With PSK
encryption-protocol-proposed		cluster-peer-crypt optional	Proposed encryption for inter-cluster communication. Default: tls-psk if authentication is used, otherwise none Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "none" - Encryption Off, • "tls_psk" - Use TLS With PSK
ipspace-name		string optional	IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: non-creatable, non-modifiable
is-cluster-healthy		boolean optional	The status of peer cluster health. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable
last-updated		datetime optional	The last time that an attempt was made to contact this cluster and its status information was updated. Attributes: non-creatable, non-modifiable
peer-addresses		remote-inet-address[] optional	The remote IP address or host name of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
psk-algorithm		cluster-peer-keyalgo optional	Algorithm by which the pre-shared key was derived. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "akep2" - akep2, • "jpake" - j-pake
remote-cluster-name		string optional	The current name of the peer cluster. Fetched remotely. Generally, use the 'cluster' name instead. Attributes: non-creatable, non-modifiable
remote-cluster-nodes		peer-node-name[] optional	The list of all the nodes in the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
rpc-connect-timeout	**[5..30]**	integer optional	The timeout for RPC Connect calls to the peer cluster in seconds. Default: 10 Attributes: non-creatable, non-modifiable
serial-number		cluster-serial-number	This is an assigned serial number of peer cluster. It is assigned at the time of cluster create. Available in the local cluster from a

		optional	cache. Attributes: non-creatable, non-modifiable
timeout	**[25..180]**	integer optional	The timeout for operations in the peer cluster in seconds. Default: 15 Available in the local cluster. Attributes: non-creatable, non-modifiable
unreachable-local-nodes		peer-node-name[] optional	List of local nodes not contactable from the node on which the command is executed. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable
update-ping-timeout	**[1..10]**	integer optional	The timeout for pings to the peer cluster in seconds. Default: 5 Attributes: non-creatable, non-modifiable

Element definition: **cluster-peer-passphrase-info**

[top]

Cluster Peer Create Passphrase Information

Name	Range	Type	Description
authentication		cluster-peer-auth-status-operational optional	Authentication Status Administrative Attributes: non-creatable, non-modifiable
availability		cluster-peer-avail optional	Availability of the Remote Cluster Attributes: non-creatable, non-modifiable Possible values: • "unavailable" , • "available" , • "partial" , • "pending" , • "unidentified"
cluster		string optional	Peer Cluster Name Attributes: non-creatable, non-modifiable
initial-allowed-vserver-peers		vserver-name[] optional	Vservers allowed for auto peering Attributes: optional-for-create, non-modifiable
ip-address		remote-inet-address optional	Intercluster LIF IP Address Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace Attributes: optional-for-create, non-modifiable
offer-expiration		expiration optional	If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future Attributes: optional-for-create, non-modifiable
passphrase		string optional	The arbitrary passphrase that matches the one given to the peer cluster. Attributes: optional-for-create, non-modifiable
reciprocal-status		cluster-peer-status	Reciprocal Peering Status Attributes: non-creatable, non-modifiable Possible values: • "non_reciprocal" - Non reciprocal peer, • "reciprocal_connect_success" - Reciprocal peer connection create success, • "reciprocal_connect_failure" - Reciprocal peer connection

		optional	create failure, • "reciprocal_passphrase_success" - Reciprocal passphrase creation success, • "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure

Element definition: **cluster-peer-passphrase-info-modify**

[top]

Cluster Peer Create Passphrase Information

Name	Range	Type	Description
cluster		string optional	The name of the peer cluster. Available in the local cluster. Attributes: key, required-for-create, non-modifiable
ip-address		remote-inet-address optional	Intercluster LIF IP Address Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: optional-for-create, non-modifiable
offer-expiration		expiration optional	When the offer to match passphrases will expire. Default: one hour into the future Available in the local cluster. Attributes: optional-for-create, non-modifiable
passphrase		string optional	Authentication Passphrase Attributes: optional-for-create, non-modifiable

Element definition: **cluster-peer-ping-info**

[top]

Cluster Peer Ping Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
count	**[1..255]**	integer optional	The total number of times to ping. Attributes: key, non-creatable, non-modifiable
current-count	**[0..2^32-1]**	integer optional	The current ping count. Attributes: key, non-creatable, non-modifiable
destination-address		ip-address optional	The active IP address of the node. Attributes: key, non-creatable, non-modifiable
destination-cluster		cluster-name	The name of the destination cluster. Attributes: key, non-creatable, non-modifiable

		optional	
destination-cluster-uuid		string optional	The UUID of the destination cluster. Attributes: non-creatable, non-modifiable
destination-node		string optional	The name of the destination node. Attributes: key, non-creatable, non-modifiable
originating-node		node-name optional	The name of the originating node. Attributes: key, non-creatable, non-modifiable
ping-status		peer-ping-status optional	The status of the ping operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown_node" - Unknown Node, • "internal_error" - Internal Error, • "unreachable" - Unreachable, • "session_reachable" - Session Reachable, • "interface_reachable" - Interface Reachable, • "address_family_mismatch" - Address Family Mismatch
round-trip	**[0..2^64-1]**	integer optional	The roundtrip response time of ping operation in microseconds. Attributes: non-creatable, non-modifiable
time-to-live	**[0..2^32-1]**	integer optional	The time to live (remaining hops). Attributes: non-creatable, non-modifiable
timeout	**[0..2^32-1]**	integer optional	The timeout to use when pinging the peer cluster in seconds. Default: 15 Attributes: non-creatable, non-modifiable
type		peer-ping-protocol optional	The network protocol to use when performing the ping operation. Attributes: non-creatable, non-modifiable Possible values: • "data" - Data Ping, • "icmp" - ICMP Ping

Element definition: **cluster-peer-policy**

[top]

Policy Configuration of the Cluster Peer Facility. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-unauthenticated-access-permitted		boolean optional	Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted. Default: false Attributes: non-creatable, modifiable
is-unencrypted-access-permitted		boolean optional	Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted. Default: true Attributes: non-creatable, modifiable
passphrase-	**[0..1500]**	integer	Minimum required length for a passphrase. Default: 8

minimum-length		optional	Attributes: non-creatable, modifiable

Element definition: **expiration** [top]

Expiration in MM/DD/YYYY HH:MM:SS | {1..7}days | {1..168}hours | PnDTnHnMnS | PnW

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **peer-node-name** [top]

The name of a node in a peer cluster

[none]

Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **vserver-peer-permission-application** [top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

Element definition: **cluster-peer-auth-status-operational** [top]

Cluster Peering Operational Authenticated State

The following are the possible values for the operational authentication state and their meanings.

- 'ok' - The clusters have reached agreement on a shared secret and are using it in ongoing communication (both sides use-authentication, among other attributes),
- 'absent' - The clusters agree that neither side requires authentication of the other (both sides no-authentication),
- 'pending' - This cluster has an outstanding offer to authenticate with the other cluster, but agreement has not yet been reached,
- 'expired' - This cluster's offer to authenticate with the other cluster expired before agreement was reached,
- 'revoked' - This cluster has revoked any authentication agreement (this side revoked),
- 'declined' - The other cluster has revoked our communication attempts and is declining to peer with this cluster,
- 'refused' - The other cluster actively refuses our communication attempts; perhaps its part of the peering relationship has been deleted,
- 'ok_and_offer' - The clusters agree on a shared secret and are using it. In addition, this cluster

has an outstanding offer to re-authenticate with the other cluster,
- 'absent_but_offer' - The clusters currently agree that neither side requires authentication of the other, but this cluster has an outstanding offer to authenticate,
- 'revoked_but_offer' - The cluster has revoked any authentication agreement, but it has an outstanding offer to authenticate,
- 'intent_mismatch' - The two sides disagree on whether authentication is required,
- 'key_mismatch' - The two clusters both believe that they are authenticated, but one of the shared secrets has become corrupted,
- 'incapable' - The other cluster is no longer running a version of Data ONTAP that supports authenticated cluster peering.

[none]

Element definition: **cluster-peer-avail**

[top]

The availability of the peer cluster. Possible values:

- "unavailable" ,
- "available" ,
- "partial" ,
- "pending" ,
- "unidentified"

[none]

Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

Element definition: **cluster-peer-keyalgo**

[top]

akep2|jpake Possible values:

- "akep2" - akep2,
- "jpake" - j-pake

[none]

Element definition: **cluster-peer-status**

[top]

non-reciprocal|reciprocal-status Possible values:

- "non_reciprocal" - Non reciprocal peer,
- "reciprocal_connect_success" - Reciprocal peer connection create success,
- "reciprocal_connect_failure" - Reciprocal peer connection create failure,
- "reciprocal_passphrase_success" - Reciprocal passphrase creation success,
- "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure

[none]

Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

Element definition: **conn-kind**

[top]

unknown|none|PSK|Cert Possible values:

- "unk" - State unknown,
- "none" - No TLS,
- "psk" - TLS based on a Pre-Shared Key,
- "cert" - TLS based on a Certificate

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **peer-ping-protocol**

[top]

The network protocol to use when performing the ping operation. Possible values:

- "data" - Data Ping,
- "icmp" - ICMP Ping

[none]

Element definition: **peer-ping-status**

[top]

The status of the ping operation. Possible values:

- "unknown_node" - Unknown Node,
- "internal_error" - Internal Error,
- "unreachable" - Unreachable,
- "session_reachable" - Session Reachable,
- "interface_reachable" - Interface Reachable,
- "address_family_mismatch" - Address Family Mismatch

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **cluster-switch**

cluster-switch-configure-health-monitor
cluster-switch-create
cluster-switch-delete
cluster-switch-get-iter
cluster-switch-modify
cluster-switch-poll-get
cluster-switch-poll-modify

This interface is used to access information about the Ethernet switches in the cluster.

cluster-switch-configure-health-monitor

[top]

Ethernet switch health monitor configuration file setup

Input Name	Range	Type	Description
node		node-name	Node
package-url		string	Package URL

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-create

[top]

Add information about an Ethernet switch (cluster, management or storage).

Input Name	Range	Type	Description
address		ip-address	IP Address
community-or-username		string optional	SNMPv2c Community String or SNMPv3 Username
device		string	Device Name
is-monitoring-enabled-admin		true-false optional	Enable Switch Monitoring
model		switch-model	Model Number
snmp-version		sm-snmpversion optional	SNMP Version
type		switch-type	Switch Network

Errno	Description
EINTERNALERROR	

cluster-switch-delete

[top]

Delete information about an Ethernet switch (cluster, management or storage).

Input Name	Range	Type	Description
device		string	Device Name
force		boolean optional	Force Delete

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-get-iter

[top]

(cluster-swt-get-iter is now deprecated. Use cluster-switch-get-iter instead.) Display the configuration for Ethernet switch (cluster, management or storage).

Input Name	Range	Type	Description
desired-attributes		cluster-switch-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-switch-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Ethernet Switch Information object. All Ethernet Switch Information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-switch-info[] optional	The list of attributes of Ethernet Switch Information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Ethernet Switch Information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-switch-modify

[top]

Modify information about an Ethernet switch's configuration.

Input Name	Range	Type	Description
		ip-address	

address		optional	IP Address
community-or-username		string optional	SNMPv2c Community String or SNMPv3 Username
device		string	Device Name
is-monitoring-enabled-admin		true-false optional	Enable Switch Monitoring
model		switch-model optional	Model Number
snmp-version		sm-snmpversion optional	SNMP Version
type		switch-type optional	Switch Network

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-poll-get

[top]

Return Ethernet switch polling interval information.

Input Name	Range	Type	Description
desired-attributes		cluster-switch-poll-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-switch-poll-info	The attributes of the Ethernet switch polling interval information.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-poll-modify

[top]

Modify Ethernet switch polling interval information.

Input Name	Range	Type	Description
polling-interval	**[2..120]**	integer	Polling interval for monitoring Ethernet switch health.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **cluster-switch-info**

[top]

Ethernet Switch Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	IP Address Attributes: required-for-create, modifiable
device		string optional	Device Name Attributes: key, required-for-create, non-modifiable
is-monitoring-enabled-operational		true-false optional	Is Monitored ? Attributes: non-creatable, non-modifiable
model		switch-model optional	Model Number Attributes: required-for-create, non-modifiable Possible values: • "nx5010" - N5K-C5010P-BF, • "nx5020" - N5K-C5020P-BF, • "cat2960" - cisco WS-C2960-24TT-L, • "other" , • "nx5596" - N5K-C5596UP, • "cn1610" - CN1610, • "cn1601" - CN1601, • "nx3132" - N3K-C3132Q-40GX, • "nx5548" - N5K-C5548UP, • "nx3132v" - N3K-C3132Q-V, • "ot9332" , • "nx3132xl" - N3K-C3132Q-XL, • "nx3232c" - N3K-C3232C
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
reason		string optional	Reason For Not Monitoring Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial Number of the Device Attributes: non-creatable, non-modifiable
sw-version		string optional	Software Version Attributes: non-creatable, non-modifiable
type		switch-type optional	Switch Network Attributes: required-for-create, modifiable Possible values: • "cluster_network" , • "management_network" , • "storage_network"
version-source		string optional	Source Of Switch Version Attributes: non-creatable, non-modifiable

Element definition: **cluster-switch-poll-info**

[top]

Ethernet Switch Polling Interval Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
polling-interval	**[2..120]**	integer optional	Polling interval for monitoring Ethernet switch health. Attributes: non-creatable, modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **sm-snmpversion**

[top]

SNMPv1|SNMPv2c|SNMPv3 Possible values:

- "snmpv1" ,
- "snmpv2c" ,
- "snmpv3"

[none]

Element definition: **switch-model**

[top]

NX5010|NX5020|CAT2960|OTHER|NX5596|CN1610|CN1601|NX3132|NX5548|NX3132V|OT9332|NX3132XL|NX3232C Possible values:

- "nx5010" - N5K-C5010P-BF,
- "nx5020" - N5K-C5020P-BF,
- "cat2960" - cisco WS-C2960-24TT-L,
- "other" ,
- "nx5596" - N5K-C5596UP,

- "cn1610" - CN1610,
- "cn1601" - CN1601,
- "nx3132" - N3K-C3132Q-40GX,
- "nx5548" - N5K-C5548UP,
- "nx3132v" - N3K-C3132Q-V,
- "ot9332" ,
- "nx3132xl" - N3K-C3132Q-XL,
- "nx3232c" - N3K-C3232C

[none]

Element definition: **switch-type**

[top]

cluster-network|management-network|storage-network Possible values:

- "cluster_network" ,
- "management_network" ,
- "storage_network"

[none]

Element definition: **true-false**

[top]

True/False

[none]

APIs in Category: **config-backup**

config-backup-copy
config-backup-create
config-backup-delete
config-backup-download
config-backup-info-get
config-backup-info-get-iter
config-backup-rename
config-backup-settings-get
config-backup-settings-modify
config-backup-settings-password-set
config-backup-upload

This set of ZAPIs allow managing configuration backups. Configuration backups are automatically created based on three job schedules. These job schedules are '8hour', 'daily' and 'weekly'. These job schedules are pre-programmed to create 'scheduled backups'. Configuring different job schedules other than the programmed ones is not supported. Scheduled backups are uploaded to remote URL destination if it is configured. This set of ZAPIs support configuring the remote destination by specifying URL, username and password. Scheduled backups will be distributed to some nodes within the cluster and latest backups will be kept in the cluster. This set of ZAPIs allow configuring the number of latest backups to keep in the cluster per job schedule. Scheduled backups are of type 'cluster backup'. A cluster backup contains cluster-wide replicas in addition to 'node backup' of each node in the cluster. A 'node backup' contains only node-specific configuration such as configuration files on the root volume and the boot variables. Configuration backups can also be created 'on demand' by using this set of ZAPIs. These ZAPIs support creating node backups and cluster backups on demand. Backup management operations such as delete backup, copy backup to another node in cluster, rename backup, download backup from URL and upload backup to URL are supported by this set of ZAPIs. ZAPIs for delete, copy, rename, download and upload operations are applicable for any type of backups, i.e. scheduled backups and on demand backups, node backups and cluster backups.

config-backup-copy

[top]

Copy a configuration backup. A job will be queued to copy the configuration backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
from-node		string	The source node to copy the configuration backup from. This is the node that has the backup file on its root volume.
to-node		string	The destination node to copy the configuration backup to.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
			The operation status. Possible values: "succeeded", "in_progress",

result-status		string	"failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-create

[top]

Create a configuration backup. A job will be queued to create the configuration backup in the background. Creation of configuration backup may take several minutes. This ZAPI creates an on demand backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
backup-name		string optional	The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate the name for configuration backup.
backup-type		backup-type optional	Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. Possible values: • "node" - Node Backup, • "cluster" - Cluster Backup
node		string	The node to own the configuration backup. This is the node that will have the backup file on its root volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-delete

[top]

Delete a configuration backup.

Input Name	Range	Type	Description

backup-name		string	The name of the configuration backup.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-download

[top]

Download a configuration backup from a URL.

Input Name	Range	Type	Description
backup-name		string optional	The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate a name for configuration backup.
node		string	The node to own the configuration backup. The backup file will be downloaded to the root volume of this node.
source-url		string	The source URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-info-get

[top]

Return information about a specified configuration backup.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
desired-attributes		config-backup-info-type optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Output Name	Range	Type	Description
attributes		config-backup-info-type	The attributes of the config-backup-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-info-get-iter

[top]

Return a list of configuration backups in the cluster.

Input Name	Range	Type	Description
desired-attributes		config-backup-info-type optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		config-backup-info-type optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the config-backup-info object. All config-backup-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		config-backup-info-type[] optional	The list of attributes of config-backup-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more config-backup-info objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

config-backup-rename

[top]

Rename a configuration backup. Renamed backup stays on the same node.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
new-backup-		string	The new name for the configuration backup. It must be a valid file name. An extension of .7z will be added if the given new-name doesn't have that

name			extension.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-settings-get

[top]

Return information about the configuration backup settings.

Input Name	Range	Type	Description
desired-attributes		config-backup-settings-type optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		config-backup-settings-type	The attributes of the config-backup-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-settings-modify

[top]

Modify the settings for configuration backup operations.

Input Name	Range	Type	Description
backup-count1	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 1.
backup-count2	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 2.
backup-count3	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 3.
destination-url		string optional	The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported.
username-for-destination-url		string optional	The username for the destination URL.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-settings-password-set

[top]

Modify the password for destination URL.

Input Name	Range	Type	Description
password-for-destination-url		string optional	Password for the destination URL.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-upload

[top]

Upload a configuration backup to a URL.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
destination-url		string	The destination URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

Element definition: **config-backup-info-type**

[top]

Configuration Backup Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
backup-creation-time	**[0..2^31-1]**	integer optional	The time of the configuration backup creation. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
backup-name		string optional	The name of the configuration backup. Attributes: key, required-for-create, non-modifiable
backup-size	**[0..2^63-1]**	integer optional	The size of configuration backup file in number of bytes. Attributes: non-creatable, non-modifiable
backup-type		backup-type optional	Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. If backup-type is not provided, cluster backup is assumed by default. Attributes: non-creatable, non-modifiable Possible values: • "node" - Node Backup, • "cluster" - Cluster Backup
cluster-name		string optional	The name of the cluster which the configuration backup was created for. This field is set only for cluster backups. For node backups, the nodes-in-backup field indicates the name of the node. Attributes: non-creatable, non-modifiable
cluster-uuid		string optional	The UUID of the cluster which the configuration backup was created for. This field is set only for cluster backups. Attributes: non-creatable, non-modifiable
is-auto		boolean optional	True indicates that configuration backup is a scheduled backup that was created automatically by a schedule. False indicates that configuration backup was created on demand. Attributes: non-creatable, non-modifiable
node		string optional	The node that owns the configuration backup. This is the node that has the backup file on its root volume. Attributes: key, required-for-create, non-modifiable
nodes-in-backup		string[] optional	The names of the nodes included in the configuration backup. Attributes: non-creatable, non-modifiable
schedule		string optional	The name of the job schedule for scheduled backups. Possible values are: '8hour', 'daily', and 'weekly'. This field is not set for on demand backups created via management CLI or ZAPI. Attributes: non-creatable, non-modifiable
version		string optional	The software version which the configuration backup was created with. Attributes: non-creatable, non-modifiable

Element definition: **config-backup-settings-type**

[top]

Configuration Backup Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
backup-count1	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 1. Attributes: non-creatable, modifiable
backup-count2	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 2. Attributes: non-creatable, modifiable
backup-count3	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 3. Attributes: non-creatable, modifiable
destination-url		string optional	The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. Attributes: non-creatable, modifiable
job-schedule1		string optional	The name of the first job schedule for generating configuration backups. It is pre-programmed to be '8hour'. Attributes: non-creatable, non-modifiable
job-schedule2		string optional	The name of the second job schedule for generating configuration backups. It is pre-programmed to be 'daily'. Attributes: non-creatable, non-modifiable
job-schedule3		string optional	The name of the third job schedule for generating configuration backups. It is pre-programmed to be 'weekly'. Attributes: non-creatable, non-modifiable
username-for-destination-url		string optional	The username for the destination URL. Attributes: non-creatable, modifiable

Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

APIs in Category: **coredump**

coredump-configure
coredump-list-cores-iter-next
coredump-list-cores-iter-start
coredump-list-info
coredump-remove
coredump-save
coredump-trigger

coredump-configure

[top]

Setup some coredump options. If not invoked, the default settings are: sparsecore is true, minfree is zero, and dump-attempts is two.

Input Name	Range	Type	Description
dump-attempts		integer	The number of times coredump should attempt to dump a core when faced with disk errors that prevent writes from completing. When set to zero, no cores will be dumped. Range : [0..10].
minfree		integer	The number of bytes that need to be left in the root filesystem after coredump has finished saving a core. If this amount of space will not be left, save attempts will be aborted. If a core is already being saved, this setting will not take affect until savecore starts saving another core. Range : [0..2^63-1].
save-attempts		integer	The number of times coredump should attempt to save a core before requiring the force flag to be set to true in the coredump-save interface. This is a safeguard built into coredump to prevent coredump from causing a panic loop. Range : [0..10].
sparsecore		boolean	Controls whether or not coredump should dump sparse cores. Sparse cores do not include wafl buffers that contain only user data.

Errno	Description
EINTERNALERROR	

coredump-list-cores-iter-next

[top]

Obtain a list of cores on this system

Input Name	Range	Type	Description
maximum		integer	Maximum number of directory entries to retrieve.
tag		string	Tag from a previous 'coredump-list-cores-iter-start' or 'coredump-list-cores-iter-next'.

Output Name	Range	Type	Description

core-details		core-detail-info[]	Information about every core on this system, both saved and unsaved.
next-tag		string	The tag value to supply to the next invocation of 'coredump-list-cores-iter-next'.
records		integer	The number of cores being returned by this call. When this value reaches zero, all cores have been retrieved.

Errno	Description
EINTERNALERROR	
ELOWMEMORY	
ECOREDUMPBUSY	

coredump-list-cores-iter-start

[top]

Start an iteration through the core files on this system. This interface will return an error unless the state returned by coredump-list-info is idle, nocore, or waitdump.

Output Name	Range	Type	Description
next-tag		string	Tag to be used in next call to 'coredump-list-cores-iter-next'.

Errno	Description
EINTERNALERROR	
ECOREDUMPNOTINITIALIZED	
ECOREDUMPBUSY	

coredump-list-info

[top]

Gather info about state of coredump

Output Name	Range	Type	Description
config-details		config-detail-info optional	This provides information about the disks available to coredump. Information includes whether or not unsaved cores are on the disks, how many blocks are available to dump a core, and what kind of dump would be done, if the system were to panic right now. This is only returned if state is nocore, idle, or waitdump.
fs-avail-bytes		integer optional	The number of free bytes available in the root filesystem for saving cores. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range : [-1..2^63-1].
fs-bytes-needed		integer optional	The maximum number of free bytes needed in the root filesystem for saving all unsaved cores. This will only be returned if state is idle. Range : [0..2^63-1].
fs-minfree-bytes		integer optional	The minimum number of bytes that must be left free in the root filesystem when savecore has finished saving a core. Any core that has a chance to reduce free space below this amount will not be saved. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range :

			[-1..2^63-1].
progress-details		progress-detail-info optional	Progress savecore has made saving the current core. This is only returned if state is saving.
state		string	The current state of savecore. Possible values: nocore, idle, init, saving, mini, waitdump

Errno	Description
EINTERNALERROR	
ENOTWHILEWAITINGFORGIVEBACK	
ENOTINMAINTMODE	
ENOTINREADONLYMODE	
ECOREDUMPNOTINITIALIZED	

coredump-remove

[top]

Removes saved or unsaved cores from this system.

Input Name	Range	Type	Description
coreid		integer optional	The id of the core that should be deleted. If not provided, all cores will be deleted. Range : [0..2^63-1].
remove-saved		boolean optional	Set to true if cores that have already been saved should be deleted. Otherwise, only unsaved cores will be deleted. Default: false

Errno	Description
EBADCOREID	
EINTERNALERROR	
ENOTWHILEWAITINGFORGIVEBACK	
ENOTINMAINTMODE	
ENOTINREADONLYMODE	

coredump-save

[top]

Start saving any unsaved cores

Input Name	Range	Type	Description
coreid		integer optional	The id of the core that should be saved. If not provided, all cores will be saved. Range : [0..2^63-1].
force		boolean optional	Set to true to allow savecore to save cores that have had too many failed save attempts in the past. Default: false

Errno	Description
EINTERNALERROR	
ENOTWHILEWAITINGFORGIVEBACK	
ENOTINMAINTMODE	

ENOTINREADONLYMODE	

coredump-trigger

[top]

Trigger a coredump via the Service Processor

Input Name	Range	Type	Description
node		node-name	Node whose core dump is required

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **config-detail-info**

[top]

Disk configuration information related to coredump

Name	Range	Type	Description
async-blocks		integer	The total number of 4KB blocks available to coredump on the disks that support the spraycore mode of coredump. Range : [0..2^31-1].
async-disks		integer	The number of unused disks available to coredump that support spraycore. Range : [0..2^31-1].
dumptype		string	This is the type of dump that will be done if the machine panics right now. Possible values: compressed, sprayed, spare
needed-blocks		integer	The total number of 4KB disk blocks needed for coredump to spray a core if a panic were to happen right now. Range : [0..2^31-1].
needed-disks		integer	The minimum number of disks needed to spray a core. Range : [0..2^31-1].
no-spares		boolean	True if no spare disks are available. If no spares are available, and the dumptype is spare, no core can be dumped.
partial-disks		integer	The number of disks that contain unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1].
partial-dumps		integer	The number of unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1].
supports-spraycore		boolean	True if this platform supports spraying cores, and false otherwise.
total-disks		integer	The total number of disks available to coredump. Range : [0..2^31-1].
used-disks		integer	Number of disks that already contain portions of unsaved cores. This only includes cores that are not missing any disks. Range : [0..2^31-1].
used-dumps		integer	The number of unsaved cores that are not missing any disks. Range : [0..2^31-1].

Element definition: **core-detail-info**

[top]

All important information about a single core in the system.

Name	Range	Type	Description
ancillary-segment-directory		string	The directory holding ancillary kernel core segments belonging to this panic.
attempts		integer optional	The number of attempts that have been made to save an unsaved core. This is only returned if saved is false. Range : [0..2^31-1].
coreid		integer	A handle that can be used with coredump-remove or coredump-save to remove/save specific cores. Range : [0..2^63-1].
corename		string	The name of the core file. For unsaved cores, this is the name the core file will have once the core is saved.
fs-bytes-needed		integer optional	The maximum number of bytes needed in the root filesystem to save this core. This is only returned if saved is false. Range : [0..2^63-1].
is-partial		boolean optional	True if the core is a partial core. Partial cores are missing disks. This is only returned if saved is false.
is-saved		boolean	True if this core has already been saved.
md5-data-chksum		string	The MD5 checksum of the compressed data of this core.
os-version		string	The version of Data ONTAP that generated this core.
panic-string		string	The panic string for the panic that generated this core.
panic-time		integer	The time of the panic that generated this core. It is specified in seconds since the epoch. Range : [0..2^31-1].
size		integer optional	The size of core (bytes). Range : [0..2^63-1].
sysid		integer	The system id of the system that generated this core. Range : [0..2^31-1].

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **progress-detail-info**

[top]

Savecore progress info

Name	Range	Type	Description
corename		string	Name of the core being saved
saved-blocks		integer	Number of blocks that have already been saved in the core that is being saved
total-blocks		integer	Total number of blocks of data in the core that is being saved.

APIs in Category: **dashboard**

dashboard-alarm-get
dashboard-alarm-get-iter
dashboard-alarm-get-total-records
dashboard-alarm-threshold-get
dashboard-alarm-threshold-get-iter
dashboard-alarm-threshold-get-total-records
dashboard-alarm-threshold-modify

Note: This command is removed starting from ONTAP 9.0.

This set of APIs provides visibility into the Alarm Dashboard feature of the system. The Alarm Dashboard allows the system administrator to proactively monitor the health of each node in the cluster by exposing various storage and performance metrics. The administrator may configure this dashboard to alert users in the event a performance metric crosses a predetermined threshold. The following metrics are monitored by the Alarm Dashboard:

- average client latency (performance of NFS and CIFS operations)
- CPU utilization
- data network health (ratio of packet errors over total packets)
- data port utilization
- storage space utilization

The APIs are divided into the following major features:

- Alarms: view storage and performance metrics
- Alarm Thresholds: manage warning / critical thresholds, polling intervals, and user notifications

dashboard-alarm-get

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
dashboard-metric-type		dashboard-metric-type	The type of metric being monitored. Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
desired-attributes		dashboard-alarm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	Name of the node associated with the alarm metrics.
object-name		string	Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy.

Output Name	Range	Type	Description
		dashboard-	

attributes		alarm-info	The attributes of the dashboard-alarm.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-get-iter

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
desired-attributes		dashboard-alarm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		dashboard-alarm-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm object. All dashboard-alarm objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		dashboard-alarm-info[] optional	The list of attributes of dashboard-alarm objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dashboard-alarm objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of dashboard-alarm objects.

dashboard-alarm-threshold-get

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
dashboard-metric-type		dashboard-metric-type	The type of metric being monitored. Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
desired-attributes		dashboard-alarm-threshold-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		dashboard-alarm-threshold-info	The attributes of the dashboard-alarm-threshold.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-threshold-get-iter

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
desired-attributes		dashboard-alarm-threshold-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		dashboard-alarm-threshold-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm-threshold object. All dashboard-alarm-threshold objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		dashboard-alarm-threshold-info[] optional	The list of attributes of dashboard-alarm-threshold objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dashboard-alarm-threshold objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-threshold-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of dashboard-alarm-threshold objects.

dashboard-alarm-threshold-modify

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
critical-threshold		string optional	The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms
dashboard-metric-type		dashboard-metric-type	The type of metric being monitored. Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
is-user-notification-enabled		boolean optional	Specifies whether user notifications are enabled.
polling-interval	**[60..6000]**	integer optional	The refresh interval for the alarm dashboard metrics (in seconds).
threshold-units		threshold-unit optional	Threshold Units Possible values: • "none" - none, • "ms" - milliseconds, • "percent" - percent

warning-threshold		string optional	The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms

Errno	Description
EAPIUNSUPPORTEDVERSION	

Element definition: **dashboard-alarm-info**

[top]

Alarm monitoring data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dashboard-metric-type		dashboard-metric-type optional	The type of metric being monitored. Attributes: key, non-creatable, non-modifiable Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
high-value		string optional	The highest value recorded so far for this metric. Attributes: non-creatable, non-modifiable
last-value		string optional	The last value recorded for this metric. Attributes: non-creatable, non-modifiable
node		string optional	Name of the node associated with the alarm metrics. Attributes: key, non-creatable, non-modifiable
object-name		string optional	Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy. Attributes: key, non-creatable, non-modifiable
state		alarm-state optional	The current alarm state of the object being monitored. Attributes: non-creatable, non-modifiable Possible values: • "ok" , • "warning" , • "critical"

Element definition: **dashboard-alarm-threshold-info**

[top]

Alarm threshold configuration settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
critical-threshold		string optional	The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms Attributes: optional-for-create, modifiable
dashboard-metric-type		dashboard-metric-type optional	The type of metric being monitored. Attributes: key, required-for-create, non-modifiable Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
is-user-notification-enabled		boolean optional	Specifies whether user notifications are enabled. Attributes: required-for-create, modifiable
polling-interval	**[60..6000]**	integer optional	The refresh interval for the alarm dashboard metrics (in seconds). Attributes: required-for-create, modifiable
threshold-units		threshold-unit optional	Threshold Units Attributes: optional-for-create, modifiable Possible values: • "none" - none, • "ms" - milliseconds, • "percent" - percent
warning-threshold		string optional	The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms Attributes: required-for-create, modifiable

Element definition: **dashboard-metric-type**

[top]

Metric Type Possible values:

- "cpu_busy" - CPU Utilization,
- "port_util" - Port Utilization,
- "op_latency" - Average Client Latency of NFS and CIFS operations,
- "aggregate_used" - Storage Aggregate Utilization,
- "port_problems" - Packet Error Ratio

[none]

Element definition: **threshold-unit**

[top]

Dashboard Threshold Units Possible values:

- "none" - none,
- "ms" - milliseconds,
- "percent" - percent

[none]

Element definition: **alarm-state**

[top]

Alarm Monitoring State Possible values:

- "ok" ,
- "warning" ,
- "critical"

[none]

APIs in Category: **diagnosis**

diagnosis-alert-definition-get
diagnosis-alert-definition-get-iter
diagnosis-alert-get
diagnosis-alert-get-iter
diagnosis-alert-modify
diagnosis-config-get
diagnosis-config-get-iter
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diagnosis-policy-modify
diagnosis-status-get
diagnosis-subsystem-config-get
diagnosis-subsystem-config-get-iter
diagnosis-subsystem-config-modify

This set of Zapis is used for monitoring and diagnosing system health.

diagnosis-alert-definition-get

[top]

Return alert definition

Input Name	Range	Type	Description
alert-id		string	Alert identification.
desired-attributes		diagnosis-alert-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Output Name	Range	Type	Description
attributes		diagnosis-alert-definition-info	The attributes of the Alert Definition.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-alert-definition-get-iter

[top]

Iterate over a list of Alert Definition objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-alert-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-alert-definition-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Definition object. All Alert Definition objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-alert-definition-info[] optional	The list of attributes of Alert Definition objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Alert Definition objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-alert-get

[top]

Return a subsystem alert

Input Name	Range	Type	Description
alert-id		string	Alert identification.
alerting-resource		string	Unique name of resource that generated the alert.
desired-attributes		diagnosis-alert-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Output Name	Range	Type	Description
attributes		diagnosis-alert-info	The attributes of the Alert Information.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-alert-get-iter

[top]

Iterate over a list of Alert Information objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-alert-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-alert-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Information object. All Alert Information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-alert-info[] optional	The list of attributes of Alert Information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Alert Information objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-alert-modify

[top]

Acknowledge/suppress an alert

Input Name	Range	Type	Description
acknowledge		boolean optional	Acknowledge the alert condition.
acknowledger		string optional	Person who acknowledged this alert
alert-id		string	Alert identification.
alerting-resource		string	Unique name of resource that generated the alert.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.
suppress		boolean optional	Suppress this alert.
suppressor		string optional	Person who suppressed this alert

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-config-get

[top]

Return the system health framework configuration

Input Name	Range	Type	Description
desired-attributes		diagnosis-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Output Name	Range	Type	Description
attributes		diagnosis-config-info	The attributes of the Health Monitor Configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-config-get-iter

[top]

Iterate over a list of Health Monitor Configuration objects.

Input Name	Range	Type	Description

desired-attributes		diagnosis-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Configuration object. All Health Monitor Configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-config-info[] optional	The list of attributes of Health Monitor Configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Health Monitor Configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-delete-alert

[top]

Delete subsystem alert

Input Name	Range	Type	Description
alert-id		string	Alert identification.
alerting-resource		string	Unique name of resource that generated the alert.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-policy-definition-get

[top]

Return policy definition

Input Name	Range	Type	Description
desired-attributes		diagnosis-policy-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.
policy-id		string	Policy identifier.

Output Name	Range	Type	Description
attributes		diagnosis-policy-definition-info	The attributes of the Policy Definition.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-policy-definition-get-iter

[top]

Iterate over a list of Policy Definition objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-policy-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-policy-definition-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Policy Definition object. All Policy Definition objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-policy-definition-info[] optional	The list of attributes of Policy Definition objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Policy Definition objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-policy-modify

[top]

Enable/disable policy

Input Name	Range	Type	Description
enable		boolean optional	Enable/disable this policy.
is-autosupport-enabled		boolean optional	Enable AutoSupport for this alert.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.
policy-id		string	Policy identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-status-get

[top]

Return the overall system health

Input Name	Range	Type	Description
desired-attributes		diagnosis-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		diagnosis-status	The attributes of the System Health Status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-subsystem-config-get

[top]

Get the attributes of the Health Monitor Subsystem Status.

Input Name	Range	Type	Description
desired-attributes		diagnosis-subsystem-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
subsystem		hm-subsystem	Type of subsystem being monitored Possible values: • 'sas_connect', • 'ha_health',

Output Name	Range	Type	Description
attributes		diagnosis-subsystem-config-info	The attributes of the Health Monitor Subsystem Status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-subsystem-config-get-iter

[top]

Iterate over a list of Health Monitor Subsystem Status objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-subsystem-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-subsystem-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Subsystem Status object. All Health Monitor Subsystem Status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-subsystem-config-info[] optional	The list of attributes of Health Monitor Subsystem Status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Health Monitor Subsystem Status objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-subsystem-config-modify

[top]

Modify system health subsystem

Input Name	Range	Type	Description
refresh-interval	**[0..2^32-1]**	integer optional	Subsystem Refresh Interval in Minutes.
subsystem		hm-subsystem	Type of subsystem being monitored Possible values: • 'sas_connect', • 'ha_health',

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **diagnosis-alert-definition-info**

[top]

System Health Alert Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-information		string optional	Additional information about the alert. Attributes: non-creatable, non-modifiable
alert-id		string optional	Alert identification. Attributes: key, non-creatable, non-modifiable
alert-type		hm-alert-type optional	Type of alert (other,communications,quality-of-service,processing-error,device,environmental,model-change,security). Attributes: non-creatable, non-modifiable
corrective-actions		string optional	Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable
monitor		hm-type optional	Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
		hm-	Severity of alert

perceived-severity		perceived-sev optional	(Unknown,Other,Information,Degraded,Minor,Major,Critical,Fatal). Attributes: non-creatable, non-modifiable
possible-effect		string optional	Detailed description of the possible effect of the condition. Attributes: non-creatable, non-modifiable
probable-cause		hm-probable-cause optional	Probable cause for alert generation. Attributes: non-creatable, non-modifiable
probable-cause-description		string optional	Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable
subsystem		hm-subsystem optional	Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable

Element definition: **diagnosis-alert-info**

[top]

System Health Alert When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
acknowledge		boolean optional	Acknowledge the alert condition. Attributes: non-creatable, modifiable
acknowledger		string optional	Person who acknowledged this alert Attributes: non-creatable, modifiable
additional-info		string[] optional	Additional information from the resource that generated this alert Attributes: non-creatable, non-modifiable
alert-id		string optional	Alert identification. Attributes: key, non-creatable, non-modifiable
alerting-resource		string optional	Unique name of resource that generated the alert. Attributes: key, non-creatable, non-modifiable
alerting-resource-name		string optional	Display name of resource that generated the alert. Attributes: non-creatable, non-modifiable
corrective-actions		string optional	Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable
indication-time		date optional	Time of alert generation. Attributes: non-creatable, non-modifiable
monitor		hm-type optional	Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
perceived-severity		hm-perceived-sev optional	Severity of alert. Attributes: non-creatable, non-modifiable

policy		string optional	Policy rule responsible for creating this alert. Attributes: non-creatable, non-modifiable
possible-effect		string optional	Possible effect seen due to this problem. Attributes: non-creatable, non-modifiable
probable-cause		hm-probable-cause optional	Probable cause for alert generation. Attributes: non-creatable, non-modifiable
probable-cause-description		string optional	Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable
subsystem		hm-subsystem optional	Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable
suppress		boolean optional	Suppress this alert. Attributes: non-creatable, modifiable
suppressor		string optional	Person who suppressed this alert Attributes: non-creatable, modifiable

Element definition: **diagnosis-config-info**

[top]

System Health Config When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregator		hm-type optional	Aggregating health monitor that aggregates status from this health monitor. Attributes: non-creatable, non-modifiable Possible values: • "node_connect" ... node scope health monitor , • "system_connect" ... cluster scope health monitor , • "system" ... aggregator of health monitor status ,
context		hm-scope optional	Scope of health monitor (node-context, cluster-context). Attributes: non-creatable, non-modifiable Possible values: • "node_context" , • "cluster_context"
health		hm-status optional	Status of health monitor (ok, ok-with-suppressed, degraded). Attributes: non-creatable, non-modifiable Possible values: • "ok" , • "ok_with_suppressed" , • "degraded" , • "unreachable" , • "unknown"
			Subsystem initialization state of health monitor Attributes: non-

init-state		hm-subsystem-discovery-state optional	creatable, non-modifiable Possible values: • "invalid" , • "initializing" , • "initialized" , • "start_discovery" , • "start_rediscovery" , • "discovered_partially" , • "discovery_done" , • "discovery_max"
mon-version		string optional	Health Monitor version. Attributes: non-creatable, non-modifiable
monitor		hm-type optional	Type of health monitor. Attributes: key, non-creatable, non-modifiable Possible values: • "node_connect" , • "system_connect" , • "system"
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
pol-version		string optional	Policy file version. Attributes: non-creatable, non-modifiable
resources		string[] optional	Resources monitored by this health monitor. Attributes: non-creatable, non-modifiable
sub-pol-versions		string optional	Subordinate policy file versions. Attributes: non-creatable, non-modifiable
subsystem		hm-subsystem[] optional	Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable Possible values: • "sas_connect" , • "ha_health" ,

Element definition: **diagnosis-policy-definition-info**

[top]

System Health Policy Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alert-count	**[0..2^32-1]**	integer optional	Count of alerts created as a result of this policy. Attributes: non-creatable, non-modifiable
alert-id		string optional	Alert identifier for alert to be generated on policy rule match. Attributes: non-creatable, non-modifiable
creation-time		datetime optional	Time when the previous alert was created due to this policy. Attributes: non-creatable, non-modifiable
		boolean	

enable		optional	Enable/disable this policy. Attributes: non-creatable, modifiable
is-autosupport-enabled		boolean optional	Enable AutoSupport for this alert. Attributes: non-creatable, modifiable
monitor		hm-type optional	Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
policy-id		string optional	Policy identifier. Attributes: key, non-creatable, non-modifiable
responsible-resource-info		string optional	The resource responsible for creating this alert Attributes: non-creatable, non-modifiable
rule-expression		string optional	Arithmetic expression which defines alerts to be created as a result of this policy. Attributes: non-creatable, non-modifiable
where		string optional	Where clause of Arithmetic expression. Attributes: non-creatable, non-modifiable

Element definition: **diagnosis-status**

[top]

System Health Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
status		hm-status optional	Overall system health (ok,ok-with-suppressed,degraded,unreachable) as determined by the diagnosis framework. Attributes: non-creatable, non-modifiable

Element definition: **diagnosis-subsystem-config-info**

[top]

System Health Subsystem Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			Health of Subsystem. Attributes: non-creatable, non-modifiable Possible values:

health		hm-status optional	• "ok" , • "ok_with_suppressed" , • "degraded" , • "unreachable" , • "unknown"
init-state		hm-subsystem-discovery-state optional	Initialization State of Subsystem. Attributes: non-creatable, non-modifiable Possible values: • "invalid" , • "initializing" , • "initialized" , • "start_discovery" , • "start_rediscovery" , • "discovered_partially" , • "discovery_done" , • "discovery_max"
node		string[] optional	Node hosting this health monitor. Attributes: non-creatable, non-modifiable
outstanding-alert-count	**[0..2^32-1]**	integer optional	Number of outstanding alerts. Attributes: non-creatable, non-modifiable
refresh-interval	**[0..2^32-1]**	integer[] optional	Subsystem Refresh Interval in Minutes. Attributes: non-creatable, modifiable
subsystem		hm-subsystem optional	Type of subsystem being monitored Possible values: • 'sas_connect', • 'ha_health', Attributes: key, non-creatable, non-modifiable
suppressed-alert-count	**[0..2^32-1]**	integer optional	Number of suppressed alerts. Attributes: non-creatable, non-modifiable

Element definition: **hm-subsystem**

[top]

Health Monitor Subsystem

[none]

Element definition: **hm-type**

[top]

Type of Health Monitor

[none]

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **hm-alert-type** [top]

Type of alert

[none]

Element definition: **hm-perceived-sev** [top]

Alert severity

[none]

Element definition: **hm-probable-cause** [top]

Probable cause for alert generation

[none]

Element definition: **hm-scope** [top]

Node or Cluster context of Health Monitor Possible values:

- "node_context" ,
- "cluster_context"

[none]

[top]

Element definition: **hm-status**

Health Monitor Status(ok, ok-with-suppressed, degraded, unknown) Possible values:

- "ok" ,
- "ok_with_suppressed" ,
- "degraded" ,
- "unreachable" ,
- "unknown"

[none]

Element definition: **hm-subsystem-discovery-state**

[top]

Health Monitor Subsystem Initialization State(initailizing,starting_discovery,discovery_done_partially,discovery_done,initialized) Possible values:

- "invalid" ,
- "initializing" ,
- "initialized" ,
- "start_discovery" ,
- "start_rediscovery" ,
- "discovered_partially" ,
- "discovery_done" ,
- "discovery_max"

[none]

APIs in Category: **disk**

disk-fail
disk-release-all-reservations
disk-remove
disk-replace-start
disk-replace-stop
disk-sanown-assign
disk-sanown-filer-list-info
disk-sanown-list-info
disk-sanown-reassign
disk-sanown-remove-ownership
disk-set-led
disk-unfail
disk-update-disk-fw
disk-zero-spares

disk-fail

[top]

Fail a file system disk. Removes the specified file system disk from the RAID configuration, spinning the disk down when removal is complete. disk fail is used to remove a file system disk that may be logging excessive errors and requires replacement. Note that if optional input parameter 'is-immediate' is true, the specified disk will be immediately failed out, and the RAID group to which the disk belongs will enter degraded mode (meaning a disk is missing from the RAID group). If a spare disk at least as large as the disk being removed is available, the contents of the disk being removed will be reconstructed onto that spare disk. If 'is-immediate' options is false or not specified, system will prefail the disk and its content will be copied to a replacement disk if a suitable spare disk is available, and afterwards the prefailed disk will be failed out. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The disk being failed is marked as ``broken'', so that if it remains in the disk shelf, it will not be used by the filer as a spare disk. If the disk is moved to another filer, that filer will use it as a spare. This is not a recommended course of action, as the reason that the disk was failed may have been because it needed to be replaced. NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

Input Name	Range	Type	Description
disk		string	Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk.
is-immediate		boolean optional	Specify 'true' if disk is to be failed out immediately. If disk is to be prefailed, specify 'false'. Default value is 'false'.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
ESWAPINPROGRESS	
ENOTDISKOWNER	
EOPNOTSUPPORTED	
EDISKINRAIDZEROVOL	
ENOTSTARTED	

EDISKISSPARE	
ESAVECOREDISK	
E_GROUP_REPARITY	
E_MIRROR_RESYNC	
EOP_DISALLOWED_DURING_REVERT	
EBAD_DISK_LOGICAL_TYPE	
EDISKNOTSPARE	
EAPIMISSINGARGUMENT	
ENOTINSANITIZEMODE	
ENOTINMAINTMODE	
ERAIDGROUPDEGRADED	
EVOLUMEOFFLINE	
EALREADYSTARTED	

disk-release-all-reservations

[top]

Release reservations on all reserved disks. When invoked from maintenance mode, all reservations are released on all disks until the system is rebooted. When not in maintenance mode, then the system will automatically re-issue reservations for disks it owns. In sanown environment the system will reserve its disks everu 30 seconds.

Errno	Description
ERESERVATIONSDISABLED	
EUNABLETORELEASE	

disk-remove

[top]

Remove a spare disk. Removes the specified spare disk from the RAID configuration, spinning the disk down when removal is complete. You can use disk remove to remove a spare disk so that it can be used by another filer (as a replacement for a failed disk or to expand file system space). NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

Input Name	Range	Type	Description
disk		string	Name of the disk to remove. e.g. "1.1.3" or "NET-1.1" for a virtual disk.
force		boolean optional	Allow a container disk in a Dually carrier to be removed if the remove reason is "admin removed". This feature is currently disabled.
remove-reason		string optional	The reason for failing the disk. Possible values are: • "admin_removed" - Admin removed disk. • "evacuation" - Disk is marked for evacuation. The default value is "admin_removed". The failure disk will be recorded with "admin removed" as the failure reason by default. If the remove reason is "evacuation", the failure reason of the disk will be recorded as "evacuated".

Errno	Description

EINTERNALERROR	
EDISKNOTFOUND	
ENOTSTARTED	
EDISKNOTSPARE	
ESAVECOREDISK	
EOP_DISALLOWED_DURING_REVERT	

disk-replace-start

[top]

Initiate replacing a file system disk with an appropriate spare disk. Uses Rapid RAID Recovery to copy data from the source file system disk to the destination spare disk. Roles of disks are reversed at the end of that process. The spare disk will replace the file system disk in the RAID group and the file system disk will become a spare. This interface returns as soon as possible while disk replace starts in the background. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Note: The operation performs limited error checking. Disk replace starts asynchronously in the background, and it can fail even if ZAPI reports success.

Input Name	Range	Type	Description
allow-same-carrier		boolean optional	Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group.
disk		string	Name of the file system disk to replace.
force		boolean optional	Allow replacement-disk to come from the opposite spare pool. Also allow replacement-disk not matching rotational speed of majority of disks in the aggregate.
replace-reason		string optional	The reason for replacing the disk. Possible values are: • "evacuation" - Disk is marked for evacuation. • "layout_optimization" - Disk is marked for layout optimization. • "shared_disk_replacement"- Disk is marked for replacement. • "none" The default value is "none". If the replace reason is "none" or "shared_disk_replacement", the replaced disk will become a non-zeroed spare after disk copy. If the replace reason is "evacuation", the replaced disk will be failed after disk copy, and the "evacuated" failure reason will be recorded for that disk. If the replace reason is "layout_optimization", the replaced disk will become zeroed spare.
replacement-disk		string	Name of the spare disk to use as a replacement.

Errno	Description
EDISKNOTFOUND	
ENOTDISKOWNER	
EDISKISSPARE	
EDISKNOTSPARE	
EDISKTOOSMALL	
EDISKINRAIDZEROVOL	
EALREADYSTARTED	

ERAIDGROUPDEGRADED	
EVOLUMEOFFLINE	
EINTERNALERROR	
EOP_DISALLOWED_DURING_REVERT	
ENOTFROMSAMESTORAGEPOOL	

disk-replace-stop

[top]

Abort disk replace.

Input Name	Range	Type	Description
disk		string	Name of the file system disk being replaced.
replace-reason		string optional	The replace-reason of the operation to be aborted. Possible values are: • "evacuation" - Disk is unmarked for evacuation. • "layout_optimization" - Disk is unmarked for layout optimization. • "shared_disk_replacement"- Disk is unmarked for replacement. • "none"

Errno	Description
EDISKNOTFOUND	
EDISKISSPARE	
ENOTSTARTED	
EINTERNALERROR	
EOP_DISALLOWED_DURING_REVERT	

disk-sanown-assign

[top]

Assigns ownership of a disk. The normal usage is when the disk is unowned, or to assign a disk to a pool.

Input Name	Range	Type	Description
all		boolean optional	Assign all unowned visible disks to the specified node-name. The node-name parameter is mandatory. Other than node-name and copy-owner-from is not allowed with this option. If copy-owner-from parameter is specified with parameter node-name node assign disk ownership based on copy-owner-from else it assign ownership of disks based on node-name.
auto		boolean optional	Auto-assign unowned disks which are on loops where only 1 filer owns the disks and the pool information is the same, to the specified node. The node parameter is mandatory. No other parameter is allowed with this option.
checksum		string	Assign checksum type to disk. Option may only be specified on a RAID array LUNs. Possible values are: • "block"

		optional	• "zoned" • "advanced_zoned"
copy-owner-from		string optional	Assign ownership of this disk to be the same as the owner of the disk specified
disk		string optional	Name of disk to assign. Wildcarding for disk string is supported. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option.
disk-count		integer optional	Assign specified count of disks. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option.
disk-type		string optional	Assign specified type of disk(or set of disks). The disk-count parameter is mandatory. Type of disk: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, or unknown.
disklist		disk-info[] optional	Names of disks
force		boolean optional	Force flag need to be set to 'true' if assigning disks which are already owned a Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work.
is-data-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-data1-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-data2-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-root-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the root partition of the disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-spatial-disk-name-format		boolean optional	It specifies if the disk name is in spatial format. This parameter is used only by the CLI backend code to tell D-Blade ZAPI whether to select a disk name in spatial format while matching with a wild-card pattern. The default value is false.
node-name		string optional	Used only with auto or all parameter. It specifies the node to which autoassignment or assignment of all unowned disks must be done. When this is specified with copy-owner-from option assignment of selected disk will happen based on disk ownership present for disk specified for copy-owner-from parameter.
		string	Assign disk to specific owner (node name). Either of owner,owner-id or

owner		optional	copy-owner-from is mandatory.
owner-id		integer optional	Assign disk to specific owner ID (NVRAM ID or serial number). Either of owner,owner-id or copy-owner-from is mandatory Range : [0..2^32-1].
pool		integer optional	Assign disk to specific pool, e.g. '0' or '1'.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EINVALIDOWNER	
EINVALIDINPUTERROR	
E_SANOWN_AUTOASSIGN_DISABLED	
E_DISK_ASSIGN_WARN	

disk-sanown-filer-list-info

[top]

Get sanown filer information.

Input Name	Range	Type	Description
node		string	Node name for which info is requested

Output Name	Range	Type	Description
disk-sanown-filer-details		disk-sanown-filer-detail-info[]	List of filers and their information.

Errno	Description
EINTERNALERROR	
ESANOWNNOTENABLED	

disk-sanown-list-info

[top]

Get sanown disk information. This API is not supported as of Data ONTAP 8.2. Use storage-disk-get-iter instead.

Input Name	Range	Type	Description
disk		string optional	Get ownership status for given disk, if not supplied, get ownership for all disks or if onership-type is supplied, get ownership info for disks of specific type. '6a*' wildcarding is supported.
node		string optional	Node name for which info is requested
ownership-type		string optional	Possible values are 'all' which will list all disks. 'unowned' which will list all disks without owners. 'owned' which will list all disks with owners. 'visible' which will list all disks belonging to the local and partner filer. Default is 'all'. If specific disk is specified, ownership-type will be ignored.

Output Name	Range	Type	Description
disk-sanown-details		disk-sanown-detail-info[]	List of disks and their sanown information.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EAPIUNSUPPORTEDVERSION	

disk-sanown-reassign

[top]

Changes ownership on disks already belonging to an owner.

Input Name	Range	Type	Description
force		boolean optional	Force flag need to be set to 'true' if reassigning disks which are owned by another Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work. In this case reassign will need to be run on the Filer which owns the disks.
new-owner-id		integer	ID of new owner. This form will assign all the disks belonging to the old owner to the specific owner ID. Range : [0..2^32-1].
old-owner-id		integer	ID of old owner. This form takes all disks currently belonging to the specific old owner ID, and reassign them to a new owner. Range : [0..2^32-1].

Errno	Description
EINTERNALERROR	
EDISKFAILED	

disk-sanown-remove-ownership

[top]

Removes ownership information on a disks provided by disk-list.

Input Name	Range	Type	Description
disk-list		disk-name[] optional	List of disks to remove ownership information from. e.g. "1.1.1 1.1.2" or "NET-1.1 NET-1.2" for virtual disks.
force		boolean optional	If 'true' override the RAID checks. Eg: Disk is part of aggregate. Otherwise defaults to false.
is-data-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.

is-data1-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.
is-data2-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.
is-root-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the root partition of a root-data or root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.

Errno	Description
EINVALIDINPUTERROR	
EDISKNOTFOUND	
EINVALIDOWNER	
EINVALIDRESERVATION	
ENODISKSFOUND	
EMUSTBEINMAINTMODE	
EINTERNALERROR	
EDISKFAILED	

disk-set-led

[top]

Set the disk LED state

Input Name	Range	Type	Description
disk		string	Disk to set the LED state
led-state		string	The LED state to set Possible values are 'evac-start', 'evac-end', 'led-on', 'led-off'

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EINVALIDINPUTERROR	

disk-unfail

[top]

Unfail a disk in the broken pool, by clearing its FDR (Failed Disk Registry) entry and unfailing it at the Storage Layer, as necessary. If the "make-spare" option is set to B_TRUE, the disk is returned to the spare pool. Otherwise, label assimilation will bring the disk back according to its on-disk labels, with one of four possible outcomes. 1. Disk becomes a spare. This is the common case. The disk becomes a spare upon unfail, because its parent volume is complete and online. 2. Disk is assimilated into former volume. This is a recovery scenario. The disk is brought back into an existing volume, which may result in this volume coming back online. 3. Disk is assimilated into a new partial volume. This may occur in the rare case that the disk's former volume was destroyed or moved. 4. Disk returned to broken pool. This is the case if a fatal error occurs in process of unfailing the disk.

Input Name	Range	Type	Description
disk		string	Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk.
make-spare		boolean optional	Specify 'true' to force the disk to become a spare upon unfail. Default value is 'false'.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EOP_DISALLOWED_DURING_REVERT	
ENOTSTARTED	
EDISKISSPARE	
ESAVECOREDISK	
E_GROUP_REPARITY	
E_MIRROR_RESYNC	
EOP_DISALLOWED_DURING_REVERT	
EDISKNOTSPARE	
EAPIMISSINGARGUMENT	
ENOTINSANITIZEMODE	
ENOTINMAINTMODE	
ERAIDGROUPDEGRADED	
EVOLUMEOFFLINE	
EALREADYSTARTED	

disk-update-disk-fw

[top]

Start disk firmware download process to update firmware on disks. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on disks that do not have the latest firmware revision. The firmware revision on the disk can be monitored via the disk-list-info API.

Input Name	Range	Type	Description
disk-list		disk-name[] optional	List of disks to be updated. If not specified, all disks are updated. e.g. "1.1.1 1.1.2 1.1.3" or "NET-1.1 NET-1.2" for virtual disks.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	

EINVALIDINPUTERROR	
ENODENOTFOUND	

disk-zero-spares

[top]

Set up all non-zeroed spares owned by the filer to start zeroing. This operation is asynchronous, and therefore returns no errors that might occur when the zeroing operation actually starts, which could be several seconds after this API operation completes. Zeroing progress can be monitored via the disk-list-info API. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The "zeroing-percent" element of disk-detail-info is returned if disk zeroing has started, and "is-zeroed" returns TRUE once the zeroing has completed (or, if zeroing wasn't necessary in the first place).

Input Name	Range	Type	Description
node-name		string optional	Name of the node on which spare disks to be zeroed When requested from Admin Vserver LIF and node name is not specified, spare disks from all nodes in the cluster will be zeroed.
use-physical-zeroing		boolean optional	If set to true, the ZAPI will not use fast zeroing, even if the nodes(s) owning the disks have the feature enabled. This will usually lead to much longer completion times.

Errno	Description
EINTERNALERROR	

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **disk-sanown-detail-info**

[top]

Disk sanown information.

Name	Range	Type	Description
checksum		string optional	Only returned on RAID array LUNs. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "zoned" - zoned (this value is no longer supported).
dr-home-id	**[0..2^32-1].**	integer optional	ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home id, this will not be returned.
dr-home-owner		string optional	This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home owner, this will not be returned.
home		string optional	The home of the disk. On NG will be different than owner if the home node has been taken over. On Classic this will be the same as owner. If the disk has no owner, this will not be returned.
home-id		integer optional	ID (NVRAM ID) of disk home. Range : [0..2^32-1].
is-failed		boolean	'true' if the disk is failed, 'false' otherwise.
name		string	Name of the disk, e.g. v1.1 Wildcarding for disk string is suuported, e.g. v1.*
owner		string optional	Current owner of the disk. If disk has no owner, this will not be returned.
owner-id		integer optional	ID (NVRAM ID) of owner if there is one. Range : [0..2^32-1].
pool		integer optional	Pool the disk belongs to, if it has a owner.
reserved-by		integer	ID (NVRAM ID) of node with the reservation on this disk, 0 if there is none. Range : [0..2^32-1].
serial-no		string	Serial number of the disk.
type		string optional	Indicates the type of disk or device being being reported. Values are one of following: "FCAL", "D_ATA", "LUN", "MSATA", "SSD", "UNKNOWN"

Element definition: **disk-sanown-filer-detail-info**

[top]

Disk sanown filer information.

Name	Range	Type	Description
filer-id		integer	ID (NVRAM ID) of owner. Range : [0..2^32-1].
filer-name		string optional	Name of the filer. If the filer name hasn't been written to the disks, this will not be returned.

APIs in Category: **disk-encrypt**

disk-encrypt-get
disk-encrypt-get-iter
disk-encrypt-modify
disk-encrypt-modify-iter
disk-encrypt-sanitize
disk-encrypt-sanitize-iter
disk-encrypt-status-get
disk-encrypt-status-get-iter

This set of disk-encrypt ZAPIs allows management of the encryption parameters of self-encrypting disks, either SEDs or FIPS drives, on systems that support them. When properly set, these controls protect data at rest on the disk media. For FIPS-certified devices, these controls place the drives into compliance with their FIPS PUB 140-2 level 2 ("FIPS") certification. The authentication keys (AKs) are passphrases that allow the system to manipulate these controls.

To provide the maximum protection of disk data, set the data AK (using its corresponding key ID) to a key other than the default AK. The default AK can be either the manufacture secure ID (MSID, key ID 0x0) or a null AK (key ID displayed as blank). When a nondefault value is set as the data AK, the system automatically enables power-cycle protection, so that if a drive is removed or power-cycled, the current data AK must be presented to the device before it will transfer any data.

For FIPS-certified drives, also set the FIPS AK to place the drives into FIPS-compliance mode. In SAS FIPS drives, setting a nondefault FIPS key automatically engages firmware download protection so that the FIPS AK must be presented to the SED at each firmware download. NVMe drives use a drive-validated secure signature to prove the firmware is valid rather than requiring the FIPS key.

disk-encrypt-get

[top]

Return data key ID, FIPS key ID and protection mode of a self-encrypting disk.

Input Name	Range	Type	Description
desired-attributes		disk-encrypt-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
disk-name		string	Name of the self-encrypting disk.

Output Name	Range	Type	Description
attributes		disk-encrypt-info	The attributes of the disk-encrypt.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

disk-encrypt-get-iter

[top]

Return data key ID, FIPS key ID and protection mode of one or more self-encrypting disks.

Input Name	Range	Type	Description
desired-attributes		disk-encrypt-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 2000
query		disk-encrypt-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		disk-encrypt-info[] optional	The list of attributes of disk-encrypt objects.
next-tag		string optional	Tag for the next call. Not present when there are no more disk-encrypt objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

disk-encrypt-modify

[top]

The disk-encrypt-modify API alters encryption parameters on a self-encrypting disk (SED or FIPS).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
data-key-id		string optional	Modify the data authentication key to the key that corresponds to this key ID
disk-name		disk-name	The name specifier of the self-encrypting disks (SEDs).
fips-key-id		string optional	Modify the FIPS-compliance authentication key to the key that corresponds to this key ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	

disk-encrypt-modify-iter

[top]

The disk-encrypt-modify-iter API alters encryption parameters on one or more self-encrypting disks (SEDs).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false
data-key-id		string optional	Key ID of the New Data Authentication Key
fips-key-id		string optional	Key ID of the New Authentication Key for FIPS Compliance
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of disk-encrypt objects to be operated in this call. Default: 20
query		disk-encrypt-info	If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		disk-encrypt-modify-iter-info[] optional	Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.

next-tag		string optional	Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query and were successfully processed.
success-list		disk-encrypt-modify-iter-info[] optional	The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

disk-encrypt-sanitize

[top]

The disk-encrypt-sanitize API cryptographically erases a self-encrypting disk (SED) that is in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
disk-name		string	The name specifier of the self-encrypting disks (SEDs).

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	

disk-encrypt-sanitize-iter

[top]

The disk-encrypt-sanitize-iter API cryptographically erases one or more self-encrypting disks that are in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of disk-encrypt objects to be operated in this call. Default: 20
query		disk-encrypt-info	If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		disk-encrypt-sanitize-iter-info[] optional	Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query and were successfully processed.
success-list		disk-encrypt-sanitize-iter-info[] optional	The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

disk-encrypt-status-get

[top]

Return information about the latest self-encrypting disk command for a node.

Input Name	Range	Type	Description
		disk-	

desired-attributes		encrypt-show-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	The node reporting this status.

Output Name	Range	Type	Description
attributes		disk-encrypt-show-status-info	The attributes of the disk-encrypt.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

disk-encrypt-status-get-iter

[top]

Return information about the latest self-encrypting disk command for one or more nodes.

Input Name	Range	Type	Description
desired-attributes		disk-encrypt-show-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		disk-encrypt-show-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		disk-encrypt-show-status-info[] optional	The list of attributes of disk-encrypt objects.
next-tag		string optional	Tag for the next call. Not present when there are no more disk-encrypt objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
compliance-standard		string optional	Security standard the device supports. Attributes: non-creatable, non-modifiable
control-standard		string optional	Control Standard. Attributes: non-creatable, non-modifiable
data-key-id		string optional	Key ID of the data authentication key. Attributes: non-creatable, non-modifiable
disk-name		string optional	Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable
fips-key-id		string optional	Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable
is-fips-certified		boolean optional	Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable
is-sed		boolean optional	Is self-encrypting disk? Attributes: non-creatable, non-modifiable
overall-security		string optional	Overall Security. Attributes: non-creatable, non-modifiable
protection-mode		string optional	Protection mode of the device. Possible values are: • 'open' ... disk is unprotected, • 'data' ... data protection only without FIPS compliance, • 'part' ... partial protection with FIPS compliance only, • 'full' ... full data and FIPS compliance protection, and • 'miss' ... protection information is not available Attributes: non-creatable, non-modifiable
			Disk Type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI,

type		string optional	"msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk

Element definition: **disk-encrypt-modify-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

Name	Range	Type	Description
disk-encrypt-key		disk-encrypt-info	The keys for the disk-encrypt object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **disk-encrypt-sanitize-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

Name	Range	Type	Description
disk-encrypt-key		disk-encrypt-info	The keys for the disk-encrypt object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **disk-encrypt-show-status-info**

[top]

Information about storage encryption disk operations When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disk-done-count	**[0..2^32-1]**	integer optional	Number of drives that finished the operation, whether successful or not. Attributes: non-creatable, non-modifiable
disk-start-count	**[0..2^32-1]**	integer optional	Number of drives that started the operation. Attributes: non-creatable, non-modifiable
disk-success-count	**[0..2^32-1]**	integer optional	Number of drives that successfully completed the operation. Attributes: non-creatable, non-modifiable
is-fips-support		boolean optional	Value is 'true' if the node supports FIPS-certified Self-Encrypting Drives. Attributes: non-creatable, non-modifiable
latest-op		string optional	Latest operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Operation unknown/unspecified, • "destroy" - Cryptograpically destroy encrypting drive, • "modify" - Change encrypting drive parameters, • "revert_original" - Revert drive to as-manufactured state, • "sanitize" - Cryptographically sanitize encrypting drive, • "show" - Show encrypting drive parameters, • "status" - Display the status of encryption operations
node-name		string optional	The node reporting this status. Attributes: key, non-creatable, non-modifiable
op-execute-time	**[0..2^32-1]**	integer optional	Execution time of the operation. Attributes: non-creatable, non-modifiable
op-start-time	**[0..2^31-1]**	integer optional	Date and time the operation started. Attributes: non-creatable, non-modifiable

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

compliance-standard		string optional	Security standard the device supports. Attributes: non-creatable, non-modifiable
control-standard		string optional	Control Standard. Attributes: non-creatable, non-modifiable
data-key-id		string optional	Key ID of the data authentication key. Attributes: non-creatable, non-modifiable
disk-name		string optional	Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable
fips-key-id		string optional	Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable
is-fips-certified		boolean optional	Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable
is-sed		boolean optional	Is self-encrypting disk? Attributes: non-creatable, non-modifiable
overall-security		string optional	Overall Security. Attributes: non-creatable, non-modifiable
protection-mode		string optional	Protection mode of the device. Possible values are: • 'open' ... disk is unprotected, • 'data' ... data protection only without FIPS compliance, • 'part' ... partial protection with FIPS compliance only, • 'full' ... full data and FIPS compliance protection, and • 'miss' ... protection information is not available Attributes: non-creatable, non-modifiable
type		string optional	Disk Type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI, • "msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk

APIs in Category: **ems**

ems-autosupport-log
ems-config-get
ems-config-modify
ems-config-set-proxy-password
ems-destination-create
ems-destination-destroy
ems-destination-destroy-iter
ems-destination-get
ems-destination-get-iter
ems-destination-modify
ems-destination-modify-iter
ems-event-catalog-get-iter
ems-event-filter-copy
ems-event-filter-create
ems-event-filter-destroy-iter
ems-event-filter-get-iter
ems-event-filter-rename
ems-event-filter-rule-add
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ems-event-filter-test
ems-event-notification-create
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ems-event-notification-destination-destroy-iter
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ems-event-notification-destination-modify-iter
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ems-event-notification-get-iter
ems-event-notification-history-get-iter
ems-event-notification-modify-iter
ems-invoke
ems-mail-history-destroy
ems-mail-history-

The Event Management System (EMS) is a mechanism in the Data ONTAP kernel that supports creation, forwarding, and consumption of event indications. Ems events are generated by ONTAP when errors occur or to log status. These event indications are logged to /etc/log/ems and, depending on the event and its severity, to the syslog/console. If an event has a SNMP definition, SNMP traps will also be generated by the event indication.

destroy-iter
ems-mail-history-get
ems-mail-history-get-iter
ems-message-get
ems-message-get-iter
ems-routing-add-destination
ems-routing-get
ems-routing-get-iter
ems-routing-modify
ems-routing-modify-iter
ems-routing-remove-destination
ems-snmp-history-destroy
ems-snmp-history-destroy-iter
ems-snmp-history-get
ems-snmp-history-get-iter
ems-status-get
ems-status-get-iter

ems-autosupport-log

[top]

This API is used by SnapDrive to log SnapDrive specific events occurring on a host system to the the appliance and optionally use the appliance to generate an autosupport message. This event information will be encapsulated in an app.log.x EMS event based on error level. If auto-support is true, an autosupport message will be sent from the filer.

Input Name	Range	Type	Description
app-version		string	Version of application invoking the API.
auto-support		boolean validate	If 'true', an AutoSupport message will be generated.
category		string	Application defined category of the event.
computer-name		string	Host name invoking the API.
event-description		string	Description of event to log. An application defined message to log.
event-id		integer validate	ID of event. A user defined event-id, range [0..2^32-2].
event-source		string	Name of the application invoking the API.
log-level		integer validate	Log level. Accepted values are 0 for 'emergency', 1 for 'alert', 2 for 'critical', 3 for 'error', 4 for 'warning', 5 for 'notice', 6 for 'info', and 7 for 'debug'. As of Data ONTAP 9.0, log-level's 2 and 4 are no longer supported. Specifying 2 or 4 would be equivalent to specifying 3 or 5, respectively.

Errno	Description
EONTAPI_ENOENT	

Vfiler-enabled
Yes

ems-config-get

[top]

Return the EMS Configuration.

Input Name	Range	Type	Description
desired-attributes		ems-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		ems-config-info	The attributes of the ems-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-config-modify

[top]

Modify the EMS Configuration.

Input Name	Range	Type	Description
auto-suppress-exempt-filter		string optional	Name of event filter exempt from auto-suppression
console		boolean optional	Whether console logging should be used.
console-log-level		emsseverity optional	Console logging level. Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault, • "notice" - A normal-priority message,

			does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
duplicate-suppression-duration	**[0..2^32-1]**	integer optional	Duration in seconds for suppression of identical messages
log-rotation-size		size optional	Log file size (in bytes) needed to trigger rotation
mail-from		mail-address optional	The from address of ems mail.
mail-server		string optional	The mail server to use when sending mail.
max-destination-count	**[0..2^32-1]**	integer optional	Maximum number of event notification destinations in system.
max-filter-count	**[0..2^32-1]**	integer optional	Maximum number of event filters in system.
max-filter-rule-count	**[0..2^32-1]**	integer optional	Maximum number of event filter rules in system.
max-log-show-size	**[1..10000]**	integer optional	Maximum number of events to show.
max-notification-count	**[0..2^32-1]**	integer optional	Maximum number of event notifications in system.
max-target-event-bytes	**[10..134217728]**	integer optional	Maximum bytes per event per week. Used by autosuppression to control growth of log file size.
max-target-log-size	**[1048576..134217728]**	integer optional	The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size.
proxy-url		string optional	HTTP/HTTPS proxy URL to use when sending to REST API destinations.
proxy-user		string optional	User name to use for the HTTP/HTTPS proxy when sending to REST API destinations.
rest-delivery-timeout	**[1..1000]**	integer optional	REST API URL delivery timeout in seconds.
suppression		boolean optional	Whether suppression should be used.
trace-log-size	**[1..10000]**	integer optional	Maximum number of traces kept.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-config-set-proxy-password

[top]

Modify the password for proxy server

Input Name	Range	Type	Description
password-for-proxy-server		string optional	Password for proxy server

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_PASSWORDS_NOT_MATCH	
E_EMS_PASSWORD_REQUIRED	

ems-destination-create

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Creates an EMS destination.

Input Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values?
mail		mail-address[] optional	The e-mail address to which events are sent.
name		string	The name of the EMS destination.
return-record		boolean optional	If set to true, returns the ems-destination on successful creation. Default: false
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent.
snmp-community		string optional	The SNMP community name.
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent.
syslog-facility		syslog-facility optional	The syslog logging facility.

Output Name	Range	Type	Description
result		ems-destination-info optional	The ems-destination created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

ems-destination-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes the specified EMS destination.

Input Name	Range	Type	Description
name		string	The name of the EMS destination.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-destination-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes several EMS destinations.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue deleting the next matching ems-destination even when the deletion of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-destination even when the deletion of a previous matching ems-destination fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-destination objects to delete in this call. Default: 20
query		ems-destination-info	If deleting a specific ems-destination, this input element must specify all keys. If deleting multiple ems-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were not deleted due to some error. If set to false, the list of ems-destination objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were successfully deleted. If set to false, the list of ems-destination objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-destination-destroy-iter-info[] optional	Information about ems-destination objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
		string	Tag for the next call. Not present when there are no more

next-tag		optional	matching ems-destination objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-destination objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-destination objects that matched the query and were successfully deleted.
success-list		ems-destination-destroy-iter-info[] optional	The ems-destination objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-destination-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS destination information.

Input Name	Range	Type	Description
desired-attributes		ems-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	The name of the EMS destination.

Output Name	Range	Type	Description
attributes		ems-destination-info	The attributes of the ems-destination.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-destination-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on EMS destinations.

Input Name	Range	Type	Description
desired-attributes		ems-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		ems-destination-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-destination object. All ems-destination objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-destination-info[] optional	The list of attributes of ems-destination objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-destination objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-destination-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS destination.

Input Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values?
mail		mail-address[] optional	The e-mail address to which events are sent.
name		string	The name of the EMS destination.
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent.
snmp-community		string optional	The SNMP community name.
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent.
syslog-facility		syslog-facility optional	The syslog logging facility.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-destination-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies

several EMS destinations.

Input Name	Range	Type	Description
attributes		ems-destination-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-destination even when modification of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-destination even when the modification of a previous matching ems-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		ems-destination-info	If modifying a specific ems-destination, this input element must specify all keys. If modifying ems-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-destination objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were successfully updated. If set to false, the list of ems-destination objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-destination-modify-iter-info[] optional	Information about ems-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-destination objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-destination objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-destination objects that matched the query and were successfully updated.
success-list		ems-destination-modify-iter-info[] optional	The ems-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-event-catalog-get-iter

[top]

Return information on several EMS messages.

Input Name	Range	Type	Description
desired-attributes		event-catalog-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		event-catalog-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-catalog object. All ems-event-catalog objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-catalog-info[] optional	The list of attributes of ems-event-catalog objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-catalog objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-filter-copy

[top]

Copy an Event filter including all its rules

Input Name	Range	Type	Description
filter-name		string	Event Filter Name.
new-filter-name		string	New Event Filter Name.

Errno	Description
EDUPLICATEENTRY	
EINTERNALERROR	
EOBJECTNOTFOUND	

E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_INVALID_FILTERNAME	
E_EMS_MAX_FILTER_LIMIT_EXCEEDED	

ems-event-filter-create

[top]

Create a new event filter.

Input Name	Range	Type	Description
filter-name		string	Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen).

Errno	Description
EINTERNALERROR	
EDUPLICATEENTRY	
E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_INVALID_FILTERNAME	
E_EMS_MAX_FILTER_LIMIT_EXCEEDED	
E_EMS_CLUSTER_NOT_CAPABLE	

ems-event-filter-destroy-iter

[top]

Delete one or more existing event filters. To delete the event notifications associated with the filter as well, set the force flag.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-filter objects match a given query. If set to true, the API will continue with the next matching ems-event-filter even when the operation fails for the ems-event-filter. If set to false, the API will return on the first failure. Default: false
force-delete-notification		boolean optional	If true, delete the event notifications that have the specified filter. The default is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-filter even when the operation on a previous matching ems-event-filter fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-event-filter objects to be operated in this call. Default: 20
			If operating on a specific ems-event-filter, this input element must

query		event-filter	specify all keys. If operating on ems-event-filter objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-filter objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-filter objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-filter objects (just keys) that were successfully operated on. If set to false, the list of ems-event-filter objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-filter-destroy-iter-info[] optional	Information about ems-event-filter objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-filter objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of ems-event-filter objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-filter objects that matched the query and were successfully processed.
success-list		ems-event-filter-destroy-iter-info[] optional	The ems-event-filter objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_FILTER_HAS_NOTIFICATIONS	

ems-event-filter-get-iter

[top]

Iterate over a list of event filters.

Input Name	Range	Type	Description
desired-attributes		event-filter optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		event-filter optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-filter object. All ems-event-filter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-filter[] optional	The list of attributes of ems-event-filter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-filter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-filter-rename

[top]

Rename an Event filter

Input Name	Range	Type	Description
filter-name		string	Event Filter Name.
new-filter-name		string	New Event Filter Name.

Errno	Description
EDUPLICATEENTRY	
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_INVALID_FILTERNAME	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	

ems-event-filter-rule-add

[top]

Add a rule to an event filter

Input Name	Range	Type	Description
filter-name		string	Filter Name
message-		string	Message Name. Default: *

name		optional	
position		integer optional	An optional field to specify the position at which the rule needs to be added. Default: Added one below the last position which is the default rule.
severity		string[] optional	Severity Possible values: • 'emergency' - Disruption, • 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information, • '*' - All of the above Default: *
snmp-trap-type		string[] optional	SNMP Trap Type Possible values: • 'standard' - Standard SNMP traps, • 'built-in' - Built-in SNMP traps, • 'severity-based' - Severity based SNMP traps • '*' - All of the above Default: *
type		event-rule-type	Rule Type

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_CLUSTER_NOT_CAPABLE	
E_EMS_NEW_RULE_FOR_UNKNOWN_FILTER	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_MAX_FILTER_RULE_LIMIT_EXCEEDED	
E_EMS_ONLY_DEFAULT_RULE_ID	
E_EMS_INVALID_EVENT_FILTER_RULE_ID	
E_EMS_NO_EVENT_MATCHED_THE_RULE	
E_EMS_NO_REQUIRED_VALUE	
E_EMS_STAR_CANNOT_COEXIST	
E_EMS_INVALID_TRAP_TYPE	
E_EMS_SEVERITIES_NOT_SUPPORTED	
E_EMS_FILTER_RULE_INVALID_MESSAGENAME	
E_EMS_FILTER_RULE_INVALID_SEVERITY	
E_EMS_FILTER_RULE_INVALID_TRAP	
E_EMS_FILTER_RULE_INVALID_SEVERITY_TRAP	

ems-event-filter-rule-delete

[top]

Delete a rule for an event filter

Input Name	Range	Type	Description
filter-name		string	Filter Name
position	**[0..2^32-1]**	integer	Rule Position

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_UNKNOWN_FILTER	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_CANNOT_DELETE_DEFAULT_RULE	
E_EMS_ONLY_DEFAULT_RULE_PRESENT	
E_EMS_ONLY_DEFAULT_RULE_ID	
E_EMS_INVALID_EVENT_FILTER_RULE_ID	

ems-event-filter-rule-reorder

[top]

Reorder the rules based on the new position for a given rule

Input Name	Range	Type	Description
filter-name		string	Filter Name
position	**[0..2^32-1]**	integer	Rule Positon
to-position	**[0..2^32-1]**	integer	New Rule Position

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_UNKNOWN_FILTER	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_ONLY_DEFAULT_RULE_ID	
E_EMS_INVALID_EVENT_FILTER_RULE_ID	

ems-event-filter-test

[top]

Test an event filter

Input Name	Range	Type	Description
filter-name		string	Filter Name
message-name		ems-id optional	Message Name

Output Name	Range	Type	Description
			Gives the total number of events that are included in the filter. The format is: ' events will be included in the given filter.' If messagename

output		string	is provided, it specifies if the messagename is included or excluded in the filter. The format is: 'The messagename is included/excluded from the given filter.'

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-event-notification-create

[top]

Create an event notification

Input Name	Range	Type	Description
destinations		string[]	List of Event Notification Destinations
filter-name		string	Filter Name

Output Name	Range	Type	Description
id	[0..2^32-1]	integer optional	A nonpersistent ID assigned to the newly created notification. This can be used to update/delete the notification. Note: This ID is nonpersistent and will be changed every time a previously created notification is deleted.

Errno	Description
EINTERNALERROR	
EDUPLICATEENTRY	
E_EMS_CLUSTER_NOT_CAPABLE	
E_EMS_MAX_NOTIFICATION_LIMIT_EXCEEDED	
E_EMS_FILTER_DOESNT_EXIST	
E_EMS_DESTINATIONS_REQUIRED	
E_EMS_DESTINATION_NOT_PRESENT	

ems-event-notification-destination-check

[top]

Check connectivity to an event notification destination

Input Name	Range	Type	Description
destination-name		string	Event Notification Destination Name
node		node-name	Node

Output Name	Range	Type	Description
check-passed		boolean	Connectivity Check Passed?
result-log		string	Provides the result information after trying to connect to the given destination.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-event-notification-destination-create

[top]

Create an event notification destination

Input Name	Range	Type	Description
certificate-authority		string optional	Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server.
certificate-serial		string optional	Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server.
email		string optional	Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard.
name		string	Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen).
rest-api-url		string optional	Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix.
return-record		boolean optional	If set to true, returns the ems-event-notification-destination on successful creation. Default: false
syslog		string optional	Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'.

Output Name	Range	Type	Description
result		event-notification-destination optional	The ems-event-notification-destination created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EDUPLICATEENTRY	
E_EMS_CLUSTER_NOT_CAPABLE	
E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_FILTERNAME_SYNTAX_ERROR	
E_EMS_INVALID_SYSLOG_DEST	
E_EMS_MAX_DESTINATION_LIMIT_EXCEEDED	
E_EMS_CLIENT_CERT_DOES_NOT_EXIST	
E_EMS_CLIENT_KEY_DOES_NOT_EXIST	

E_EMS_CERT_INFO_INCOMPLETE	
E_EMS_HTTP_WITH_CERT	

ems-event-notification-destination-destroy-iter

[top]

Delete one or more existing event destinations

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue with the next matching ems-event-notification-destination even when the operation fails for the ems-event-notification-destination. If set to false, the API will return on the first failure. Default: false
force-delete-notification		boolean optional	If true, delete the event notifications that have the specified destination as the only destination as well. The default is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-notification-destination even when the operation on a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-event-notification-destination objects to be operated in this call. Default: 20
query		event-notification-destination	If operating on a specific ems-event-notification-destination, this input element must specify all keys. If operating on ems-event-notification-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-notification-destination objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully operated on. If set to false, the list of ems-event-notification-destination objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-notification-destination-destroy-iter-info[]	Information about ems-event-notification-destination objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of ems-event-notification-destination objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-notification-destination objects that matched the query and were successfully processed.
success-list		ems-event-notification-destination-destroy-iter-info[] optional	The ems-event-notification-destination objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION	
E_EMS_DESTINATION_HAS_NOTIFICATIONS	

ems-event-notification-destination-get-iter

[top]

Returns information about one or more event notification destinations. The fields is-server-ca-present, certificate-authority, certificate-serial and is-certificate-valid are only applicable for a destination of type 'rest-api' and the destination being an HTTPS destination.

Input Name	Range	Type	Description
desired-attributes		event-notification-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		event-notification-destination-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-destination object. All ems-event-notification-destination objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-notification-destination-info[] optional	The list of attributes of ems-event-notification-destination objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-notification-destination objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-notification-destination-modify-iter

[top]

Modify one or more event notification destinations

Input Name	Range	Type	Description
attributes		event-notification-destination	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification-destination even when modification of a previous ems-event-notification-destination fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification-destination even when the modification of a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		event-notification-destination	If modifying a specific ems-event-notification-destination, this input element must specify all keys. If modifying ems-event-notification-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification-destination objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification-destination objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		ems-event-notification-	

failure-list		destination-modify-iter-info[] optional	Information about ems-event-notification-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-event-notification-destination objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-notification-destination objects that matched the query and were successfully updated.
success-list		ems-event-notification-destination-modify-iter-info[] optional	The ems-event-notification-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION	
E_EMS_CANNOT_MODIFY_DESTINATION_TYPE	
E_EMS_INVALID_SYSLOG_DEST	
E_EMS_CLIENT_CERT_DOES_NOT_EXIST	
E_EMS_CLIENT_KEY_DOES_NOT_EXIST	
E_EMS_CERT_INFO_INCOMPLETE	
E_EMS_HTTP_WITH_CERT	

ems-event-notification-destroy-iter

[top]

Delete one or more event notifications

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-**	integer	The maximum number of ems-event-notification objects to

	1]	optional	delete in this call. Default: 20
query		event-notification	If deleting a specific ems-event-notification, this input element must specify all keys. If deleting multiple ems-event-notification objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were not deleted due to some error. If set to false, the list of ems-event-notification objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully deleted. If set to false, the list of ems-event-notification objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-notification-destroy-iter-info[] optional	Information about ems-event-notification objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification objects to be deleted.
num-failed	[0..2^32-1]	integer optional	Number of ems-event-notification objects that matched the query, but were not deleted due to some error.
num-succeeded	[0..2^32-1]	integer optional	The number of ems-event-notification objects that matched the query and were successfully deleted.
success-list		ems-event-notification-destroy-iter-info[] optional	The ems-event-notification objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

ems-event-notification-get-iter

[top]

Returns information about one or more event notifications

Input Name	Range	Type	Description
desired-attributes		event-notification optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		event-notification	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification object. All ems-event-notification objects matching

		optional	this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-notification[] optional	The list of attributes of ems-event-notification objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-notification objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-notification-history-get-iter

[top]

Return EMS messages sent to a destination.

Input Name	Range	Type	Description
desired-attributes		event-notification-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		string	The destination name.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		event-notification-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-history object. All ems-event-notification-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-notification-history-info[] optional	The list of attributes of ems-event-notification-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-notification-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-notification-modify-iter

[top]

Modify one or more event notifications

Input Name	Range	Type	Description
attributes		event-notification	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification even when modification of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification even when the modification of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		event-notification	If modifying a specific ems-event-notification, this input element must specify all keys. If modifying ems-event-notification objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-notification-modify-iter-info[] optional	Information about ems-event-notification objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-event-notification objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-notification objects that matched the query and were successfully updated.

success-list		ems-event-notification-modify-iter-info[] optional	The ems-event-notification objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_FILTER_DOESNT_EXIST	
E_EMS_DESTINATIONS_REQUIRED	
E_EMS_DESTINATION_NOT_PRESENT	

ems-invoke

[top]

Invoke an ems event. This functionality is intended for use in testing syslog parsers or upper level SNMP management software. The event will be forwarded to the ems log at /etc/log/ems and optionally to the syslog or SNMP trap generator. Invoked events in /etc/log/ems will have the attribute 'inv' set to "1". This is to allow auto-support to differentiate between real and invoked events. Syslog entries resulting from invoked events will contain the text "invoked event:" so that they aren't confused with real events. Invoked events by default are only logged to the /etc/log/ems log. To have an event go to the syslog or generate an snmp trap, the 'syslog' and/or 'snmp' flags need to be set.

Input Name	Range	Type	Description
event-id		string	Name of the event to invoke. Each ems event has a unique identifier (event-id) that can be used by this api to 'fake' an event. Example event-id's: kern.syslog.msg kern.uptime.filer raid.cksum.replay.nvram raid.cksum.replay.summary raid.fsm.commitStateTransit
event-version		integer optional	If set, specifies the version of the event to invoke. By default, the latest version is used. Accepted values are [1..n]. Event-version is only used when multiple versions of an event exist simultaneously within a given build of ONTAP. Most events have an event-version of 1.
params		param[] optional	
severity		string optional	For events with variable severity, specfies the severity to invoke the event at. Shouldn't be set for events that don't have variable severity. Possible Values: debug info notice warning svc_error node_error svc_fault node_fault
snmp		boolean optional	If set, and event has an SNMP definition, generate SNMP trap for event. Invoked messages by default do not generate SNMP traps.
syslog		boolean optional	If set, and the event has a syslog format definition, forward invoked message to syslog. Invoked messages are by default not forwarded to syslog

Errno	Description
EEMS_INVOKE_FAILED	
EEMS_INVOKE_BAD_PARAM	
EEMS_INVOKE_ID_BAD	
EEMS_INVOKE_SEVERITY_REQUIRED	
EEMS_INVOKE_SEVERITY_INVALID	
EEMS_INVOKE_SEVERITY_NOT_VARIABLE	

EEMS_INVOKE_PARAMS_INSUFFICIENT	
EEMS_INVOKE_VERSION_INVALID	
EEMS_INVOKE_SUPRESS_DUP	
EEMS_INVOKE_SUPRESS_TIMER	
EEMS_INVOKE_NVRAM_TOO_BIG	
EEMS_INVOKE_QUEUE_FULL	

ems-mail-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual mail history entry.

Input Name	Range	Type	Description
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-mail-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete mail history entries.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-mail-history objects match a given query. If set to true, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous ems-mail-history fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous matching ems-mail-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-mail-history objects to delete in this call. Default: 20
query		ems-mail-history-info	If deleting a specific ems-mail-history, this input element must specify all keys. If deleting multiple ems-mail-history objects based on query, this input element must specify a query.
return-		boolean	If set to true, the API will return the list of ems-mail-history objects (just keys) that were not deleted due to some error. If set to false,

failure-list		optional	the list of ems-mail-history objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-mail-history objects (just keys) that were successfully deleted. If set to false, the list of ems-mail-history objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-mail-history-destroy-iter-info[] optional	Information about ems-mail-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-mail-history objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-mail-history objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-mail-history objects that matched the query and were successfully deleted.
success-list		ems-mail-history-destroy-iter-info[] optional	The ems-mail-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-mail-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual mail history entry.

Input Name	Range	Type	Description
desired-attributes		ems-mail-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Output Name	Range	Type	Description
		ems-mail-	

attributes		history-info	The attributes of the ems-mail-history.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-mail-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information mail history.

Input Name	Range	Type	Description
desired-attributes		ems-mail-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-mail-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-mail-history object. All ems-mail-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-mail-history-info[] optional	The list of attributes of ems-mail-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-mail-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-message-get

[top]

Return an EMS message.

Input Name	Range	Type	Description

desired-attributes		ems-message-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Output Name	Range	Type	Description
attributes		ems-message-info	The attributes of the ems-message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-message-get-iter

[top]

Return EMS messages.

Input Name	Range	Type	Description
desired-attributes		ems-message-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-message-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-message object. All ems-message objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-message-info[] optional	The list of attributes of ems-message objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-message objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-routing-add-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Add EMS Destinations.

Input Name	Range	Type	Description
destinations		ems-destination[]	Destinations
message-name		ems-id	The name of the EMS message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-routing-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS route information. In general, specifying the severity input parameter is not needed. If specified, it must match that of the event identified by the message-name input parameter.

Input Name	Range	Type	Description
desired-attributes		ems-routing-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
message-name		ems-id	The name of the EMS message.
severity		eventseverity optional	The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Possible values: • "emergency" - Disruption, • "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information

Output Name	Range	Type	Description
attributes		ems-routing-info	The attributes of the ems-routing.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-routing-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on several EMS routes.

Input Name	Range	Type	Description
desired-attributes		ems-routing-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-routing-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-routing object. All ems-routing objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-routing-info[] optional	The list of attributes of ems-routing objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-routing objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-routing-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS route.

Input Name	Range	Type	Description
destinations		ems-destination[] optional	The event destinations.
frequency-threshold		integer optional	Number of times an event occurs before a repeat notification of the event is sent.
message-name		ems-id	The name of the EMS message.
time-threshold		integer optional	Minimum number of seconds between repeat notifications of an event.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	

ems-routing-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies several EMS route.

Input Name	Range	Type	Description
attributes		ems-routing-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-routing objects match a given query. If set to true, the API will continue modifying the next matching ems-routing even when modification of a previous ems-routing fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-routing even when the modification of a previous matching ems-routing fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		ems-routing-info	If modifying a specific ems-routing, this input element must specify all keys. If modifying ems-routing objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-routing objects (just keys) that were not modified due to some error. If set to false, the list of ems-routing objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-routing objects (just keys) that were successfully updated. If set to false, the list of ems-routing objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-routing-modify-iter-info[] optional	Information about ems-routing objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-routing objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-routing objects that matched the query, but were not modified due to some error.
num-	**[0..2^32-**	integer	The number of ems-routing objects that matched the query and

succeeded	**1]**	optional	were successfully updated.
success-list		ems-routing-modify-iter-info[] optional	The ems-routing objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-routing-remove-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Remote EMS Destinations.

Input Name	Range	Type	Description
destinations		ems-destination[]	Destinations
message-name		ems-id	The name of the EMS message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-snmp-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual SNMP history entry.

Input Name	Range	Type	Description
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-snmp-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete SNMP history entries.

Input Name	Range	Type	Description
			This input element is useful when multiple ems-snmp-history

continue-on-failure		boolean optional	objects match a given query. If set to true, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous ems-snmp-history fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous matching ems-snmp-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-snmp-history objects to delete in this call. Default: 20
query		ems-snmp-history-info	If deleting a specific ems-snmp-history, this input element must specify all keys. If deleting multiple ems-snmp-history objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-snmp-history objects (just keys) that were not deleted due to some error. If set to false, the list of ems-snmp-history objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-snmp-history objects (just keys) that were successfully deleted. If set to false, the list of ems-snmp-history objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-snmp-history-destroy-iter-info[] optional	Information about ems-snmp-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-snmp-history objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-snmp-history objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-snmp-history objects that matched the query and were successfully deleted.
success-list		ems-snmp-history-destroy-iter-info[] optional	The ems-snmp-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-snmp-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual SNMP history entry.

Input Name	Range	Type	Description
desired-attributes		ems-snmp-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Output Name	Range	Type	Description
attributes		ems-snmp-history-info	The attributes of the ems-snmp-history.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-snmp-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information SNMP history.

Input Name	Range	Type	Description
desired-attributes		ems-snmp-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-snmp-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-snmp-history object. All ems-snmp-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		ems-	

attributes-list		snmp-history-info[] optional	The list of attributes of ems-snmp-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-snmp-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-status-get

[top]

Return information on an EMS message.

Input Name	Range	Type	Description
desired-attributes		ems-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
message-name		ems-id	The message name.
node		node-name	Node emitting the EMS message.

Output Name	Range	Type	Description
attributes		ems-status-info	The attributes of the ems-status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-status-get-iter

[top]

Return information on EMS messages.

Input Name	Range	Type	Description
desired-attributes		ems-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		ems-status-	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-status object. All

query		info optional	ems-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-status-info[] optional	The list of attributes of ems-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **ems-config-info**

[top]

EMS Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
auto-suppress-exempt-filter		string optional	Name of event filter exempt from auto-suppression Attributes: non-creatable, modifiable
console		boolean optional	Whether console logging should be used. Attributes: non-creatable, modifiable
console-log-level		emsseverity optional	Console logging level. Attributes: non-creatable, modifiable Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault,

			• "notice" - A normal-priority message, does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
duplicate-suppression-duration	**[0..2^32-1]**	integer optional	Duration in seconds for suppression of identical messages Attributes: non-creatable, modifiable
log-rotation-size		size optional	Log file size (in bytes) needed to trigger rotation Attributes: non-creatable, modifiable
mail-from		mail-address optional	The from address of ems mail. Attributes: non-creatable, modifiable
mail-server		string optional	The mail server to use when sending mail. Attributes: non-creatable, modifiable
max-destination-count	**[0..2^32-1]**	integer optional	Maximum number of event notification destinations in system. Attributes: non-creatable, modifiable
max-filter-count	**[0..2^32-1]**	integer optional	Maximum number of event filters in system. Attributes: non-creatable, modifiable
max-filter-rule-count	**[0..2^32-1]**	integer optional	Maximum number of event filter rules in system. Attributes: non-creatable, modifiable
max-log-show-size	**[1..10000]**	integer optional	Maximum number of events to show. Attributes: non-creatable, modifiable
max-notification-count	**[0..2^32-1]**	integer optional	Maximum number of event notifications in system. Attributes: non-creatable, modifiable
max-target-event-bytes	**[10..134217728]**	integer optional	Maximum bytes per event per week. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable
max-target-log-size	**[1048576..134217728]**	integer optional	The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable
proxy-url		string optional	HTTP/HTTPS proxy URL to use when sending to REST API destinations. Attributes: non-creatable, modifiable
proxy-user		string optional	User name to use for the HTTP/HTTPS proxy when sending to REST API destinations. Attributes: non-creatable, modifiable
rest-delivery-timeout	**[1..1000]**	integer optional	REST API URL delivery timeout in seconds. Attributes: non-creatable, modifiable
suppression		boolean optional	Whether suppression should be used. Attributes: non-creatable, modifiable
trace-log-size	**[1..10000]**	integer optional	Maximum number of traces kept. Attributes: non-creatable, modifiable

Element definition: **ems-destination**

[top]

EMS destination

[none]

Element definition: **ems-destination-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-destination object.

Name	Range	Type	Description
ems-destination-key		ems-destination-info	The keys for the ems-destination object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values? Attributes: optional-for-create, modifiable
mail		mail-address[] optional	The e-mail address to which events are sent. Attributes: optional-for-create, modifiable
name		string optional	The name of the EMS destination. Attributes: key, required-for-create, non-modifiable
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable
snmp-community		string optional	The SNMP community name. Attributes: optional-for-create, modifiable
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable
syslog-facility		syslog-facility optional	The syslog logging facility. Attributes: optional-for-create, modifiable

Element definition: **ems-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-destination object.

Name	Range	Type	Description
ems-destination-key		ems-destination-info	The keys for the ems-destination object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-event-filter-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-filter object.

Name	Range	Type	Description
ems-event-filter-key		event-filter	The keys for the ems-event-filter object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-event-notification-destination-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-notification-destination object.

Name	Range	Type	Description
ems-event-notification-destination-key		event-notification-destination	The keys for the ems-event-notification-destination object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-event-notification-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-event-notification-destination object.

Name	Range	Type	Description
ems-event-notification-destination-key		event-notification-destination	The keys for the ems-event-notification-destination object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-event-notification-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-event-notification object.

Name	Range	Type	Description
ems-event-notification-key		event-notification	The keys for the ems-event-notification object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-event-notification-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-event-notification object.

Name	Range	Type	Description
ems-event-notification-key		event-notification	The keys for the ems-event-notification object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-id**

[top]

EMS Id

[none]

[top]

Element definition: **ems-mail-history-destroy-iter-info**

Information about the deletion operation that was attempted/performed against ems-mail-history object.

Name	Range	Type	Description
ems-mail-history-key		ems-mail-history-info	The keys for the ems-mail-history object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-mail-history-info**

[top]

EMS Mail History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
drops-since-previous-time	**[0..2^32-1]**	integer optional	Number of drops since previous transmission. Attributes: non-creatable, non-modifiable
mail-address		mail-address[] optional	The mail address. Attributes: non-creatable, non-modifiable
message		string optional	The alert message. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable
previous-time		datetime optional	Previous transmission time. Attributes: non-creatable, non-modifiable
seq-num		seqnum optional	The message sequence number. Attributes: key, required-for-create, non-modifiable
time		datetime optional	The mail transmission time. Attributes: non-creatable, non-modifiable

Element definition: **ems-message-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ems-severity		emsseverity optional	Message EMS severity. Attributes: non-creatable, non-modifiable Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault, • "notice" - A normal-priority message, does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
event		string optional	The EMS event. Attributes: non-creatable, non-modifiable
event-xml-len	**[0..2^32-1]**	integer optional	EMS event XML length in bytes. Attributes: non-creatable, non-modifiable
filter-name		ems-filter optional	Name of the filter to apply on events. Attributes: non-creatable, non-modifiable
kernel-gen	**[0..2^64-1]**	integer optional	The emitted message's kernel generation number. Attributes: non-creatable, non-modifiable
kernel-seq-num	**[0..2^64-1]**	integer optional	The emitted message's kernel sequence number. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable
num-suppressed-since-last	**[0..2^32-1]**	integer optional	Number of times suppressed since last time the event was logged. Attributes: non-creatable, non-modifiable
parameters		parameter[] optional	Event parameter's name and value.
seq-num		seqnum optional	The message sequence number. Attributes: key, non-creatable, non-modifiable
			Message severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: non-creatable, non-modifiable Possible values: • "emergency" - Disruption,

severity		eventseverity optional	• "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information
source		string optional	The emitted message's source. Attributes: non-creatable, non-modifiable
time		datetime optional	The time of message emission. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	Version number of the event. Attributes: non-creatable, non-modifiable

Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	The corrective action. Attributes: non-creatable, non-modifiable
description		string optional	The event description. Attributes: non-creatable, non-modifiable
destinations		ems-destination[] optional	The event destinations. Attributes: non-creatable, modifiable
frequency-threshold	**[0..2^32-1]**	integer optional	Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable
message-name		ems-id optional	The name of the EMS message. Attributes: key, non-creatable, non-modifiable
severity		eventseverity optional	The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values: • "emergency" - Disruption, • "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information
snmp-		boolean	Indicates whether or not the event supports SNMP traps.

support		optional	Attributes: non-creatable, non-modifiable
time-threshold	**[0..2^32-1]**	integer optional	Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable

Element definition: **ems-routing-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-routing object.

Name	Range	Type	Description
ems-routing-key		ems-routing-info	The keys for the ems-routing object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-snmp-history-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-snmp-history object.

Name	Range	Type	Description
ems-snmp-history-key		ems-snmp-history-info	The keys for the ems-snmp-history object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-snmp-history-info**

[top]

EMS SNMP History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
drops-since-previous-time	**[0..2^32-1]**	integer optional	Number of drops since previous transmission. Attributes: non-creatable, non-modifiable
		string	

message		optional	The alert message. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable
previous-time		datetime optional	Previous transmission time. Attributes: non-creatable, non-modifiable
seq-num		seqnum optional	The message sequence number. Attributes: key, required-for-create, non-modifiable
snmp-address		string[] optional	The SNMP client address. Attributes: non-creatable, non-modifiable
time		datetime optional	The SNMP transmission time. Attributes: non-creatable, non-modifiable

Element definition: **ems-status-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
accumulated-bytes	**[0..2^32-1]**	integer optional	The total number of bytes the event has accumulated in the log file. Attributes: non-creatable, non-modifiable
change-since		boolean optional	The algorithm to determine which events are considered chatter is run periodically. The change-since parameter indicates whether the event has been posted since the last time the chatter determination algorithm has run. Attributes: non-creatable, non-modifiable
drops	**[0..2^32-1]**	integer optional	Number of times the event has been dropped. An event is dropped if it is suppressed or has exceeded incoming rate limits. Attributes: non-creatable, non-modifiable
indications	**[0..2^32-1]**	integer optional	Number of times the event has been posted. Attributes: non-creatable, non-modifiable
is-chatter		boolean optional	Whether the event is considered chatter, and therefore subject to autosuppression. Attributes: non-creatable, non-modifiable
last-day-histogram	**[0..2^64-1]**	integer[] optional	24-hour histogram. Number of times the event was posted in the last day. The histogram is divided into 24 buckets, each bucket collecting one hour. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable
last-hour-histogram	**[0..2^64-1]**	integer[] optional	60-minute histogram. Number of times the event was posted in the last hour. The histogram is divided into sixty buckets, each bucket collecting one minute. The buckets are displayed in reverse chronological order (most recent first). Attributes:

			non-creatable, non-modifiable
last-time-dropped		datetime optional	Time the event was most recently posted and suppressed. Attributes: non-creatable, non-modifiable
last-time-occurred		datetime optional	Time the event was most recently posted. Attributes: non-creatable, non-modifiable
last-time-processed		datetime optional	Time the event was most recently posted and not suppressed. Attributes: non-creatable, non-modifiable
last-week-histogram	**[0..2^64-1]**	integer[] optional	7-day histogram. Number of times the event was posted in the last week. The histogram is divided into 7 buckets, each bucket collecting one day. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The message name. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable
num-asup-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for AutoSupport has been dropped. Attributes: non-creatable, non-modifiable
num-autosuppressed	**[0..2^32-1]**	integer optional	Number of times the event has been autosuppressed. Attributes: non-creatable, non-modifiable
num-console-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for console output has been dropped. Attributes: non-creatable, non-modifiable
num-dup-suppressed	**[0..2^32-1]**	integer optional	Number of times the event has been duplicate suppressed. Attributes: non-creatable, non-modifiable
num-dup-suppressed-after-120s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated after 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-120s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-30s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 30 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-60s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 60 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-90s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 90 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-email-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for an email destination has been dropped. Attributes: non-creatable, non-modifiable
num-logger-dropped	**[0..2^32-1]**	integer optional	Number of times the event has been dropped by the logger. Attributes: non-creatable, non-modifiable
num-mgwd-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for Management Gateway has been dropped. Attributes: non-creatable, non-modifiable
num-rate-limited	**[0..2^32-1]**	integer optional	Number of times the event has been rate limited. Attributes: non-creatable, non-modifiable
num-router-dropped	**[0..2^64-1]**	integer optional	Number of times the event has been dropped by the EMS router. Attributes: non-creatable, non-modifiable

num-suppressed-since-last	**[0..2^32-1]**	integer optional	Number of times suppressed since last time logged. Attributes: non-creatable, non-modifiable
num-timer-suppressed	**[0..2^32-1]**	integer optional	Number of times the event has been timer suppressed. Attributes: non-creatable, non-modifiable
probability	**[0..100]**	integer optional	Probability of an event being suppressed via autosuppress. Attributes: non-creatable, non-modifiable
severity		emsseverity optional	The severity of the event. Attributes: non-creatable, non-modifiable Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault, • "notice" - A normal-priority message, does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
stat-starting-time		datetime optional	Time the event was first posted. Attributes: non-creatable, non-modifiable

Element definition: **emsseverity**

[top]

NODE_FAULT|SVC_FAULT|NODE_ERROR|SVC_ERROR|WARNING|NOTICE|INFO|DEBUG|VAR Possible values:

- "node_fault" - A data corruption has been detected or the node is unable to provide client service,
- "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,
- "node_error" - A hardware error has been detected which is not immediately fatal,
- "svc_error" - A software error has been detected which is not immediately fatal,
- "warning" - A high-priority message, does not indicate a fault,
- "notice" - A normal-priority message, does not indicate a fault,
- "info" - A low-priority message, does not indicate a fault,
- "debug" - A debugging message, typically suppressed from customer,
- "var" - Message has variable severity, selected at runtime

[none]

Element definition: **event-catalog-info**

[top]

Event catalog information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	The corrective action. Attributes: non-creatable, non-modifiable
deprecated		boolean optional	The flag that indicates whether or not the event is deprecated. Attributes: non-creatable, non-modifiable
description		string optional	The event description. Attributes: non-creatable, non-modifiable
filter-name		string optional	Filter Name Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The name of the EMS message. Attributes: key, non-creatable, non-modifiable
severity		string optional	Severity Possible values: • 'emergency' - Disruption, • 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information Attributes: non-creatable, non-modifiable
snmp-trap-type		snmptraptypes optional	The type of SNMP trap. Attributes: non-creatable, non-modifiable Possible values: • "standard" - Standard SNMP traps, • "built_in" - Built-in SNMP traps, • "severity_based" - Severity based SNMP traps

Element definition: **event-filter**

[top]

Event filter creation. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event-filter-rule		event-filter-rule-info[] optional	List of rules added to each filter.
filter-name		string optional	Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable

Element definition: **event-notification**

[top]

Event notifications. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destinations		string[] optional	List of Event Notification Destinations Attributes: required-for-create, modifiable
filter-name		string optional	Event Filter Name Attributes: required-for-create, modifiable
id	**[0..2^32-1]**	integer optional	Event Notification ID Attributes: key, required-for-create, non-modifiable

Element definition: **event-notification-destination**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for-create, modifiable
certificate-		string	Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for-

serial		optional	create, modifiable
email		string optional	Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard. Attributes: optional-for-create, modifiable
name		string optional	Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable
rest-api-url		string optional	Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix. Attributes: optional-for-create, modifiable
syslog		string optional	Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. Attributes: optional-for-create, modifiable

Element definition: **event-notification-destination-info**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Issuing Certificate Authority (CA) of client certificate. Attributes: non-creatable, non-modifiable
certificate-serial		string optional	Serial number of certificate in hexadecimal format. Attributes: non-creatable, non-modifiable
destination		string[] optional	An output field to view the destination. Attributes: non-creatable, non-modifiable
is-certificate-valid		boolean optional	This field indicates whether the client certificate specified by the certificate-authority and certificate-serial fields is valid. If not, and if the REST API server requires client authentication, event messages will not be sent to the server. Attributes: non-creatable, non-modifiable
is-server-ca-present		boolean optional	This field indicates whether certificates of the server-ca type exist in the system. If not, event messages will not be sent to a rest-api type destination having an HTTPS URL. Attributes: non-creatable, non-modifiable
name		string optional	Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, non-creatable, non-modifiable

type		string optional	An output field to view the type of the destination. The type could be one of email, syslog, REST API server URL or SNMP. SNMP destinations are displayed under the default destination name 'snmp-traphost'. The SNMP destinations associated with 'snmp-traphost' can be created/updated only through the 'system snmp traphost' command. Attributes: non-creatable, non-modifiable Possible values: • "snmp" - SNMP destination, • "email" - Email destination, • "syslog" - Syslog Destination, • "rest_api" - REST API URL Destination

Element definition: **event-notification-history-info**

[top]

Event notification history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event		string optional	The EMS event. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable
seq-num		seqnum optional	The message sequence number. Attributes: key, non-creatable, non-modifiable
severity		string optional	Severity Possible values: • 'emergency' - Disruption, • 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information Attributes: non-creatable, non-modifiable
time		datetime optional	The time of message emission. Attributes: non-creatable, non-modifiable

Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

Element definition: **mail-address**

[top]

E-mail Address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **param**

[top]

one parameter required by the event.

[none]

Element definition: **remote-ip**

[top]

Remote IP Address

[none]

Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **ems-destination**

[top]

EMS destination

[none]

Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values? Attributes: optional-for-create, modifiable
mail		mail-address[] optional	The e-mail address to which events are sent. Attributes: optional-for-create, modifiable
name		string optional	The name of the EMS destination. Attributes: key, required-for-create, non-modifiable
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable
snmp-community		string optional	The SNMP community name. Attributes: optional-for-create, modifiable
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable
syslog-facility		syslog-facility optional	The syslog logging facility. Attributes: optional-for-create, modifiable

Element definition: **ems-filter**

[top]

EMS Filter Name

[none]

Element definition: **ems-id**

[top]

EMS Id

[none]

Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless

otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	The corrective action. Attributes: non-creatable, non-modifiable
description		string optional	The event description. Attributes: non-creatable, non-modifiable
destinations		ems-destination[] optional	The event destinations. Attributes: non-creatable, modifiable
frequency-threshold	**[0..2^32-1]**	integer optional	Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable
message-name		ems-id optional	The name of the EMS message. Attributes: key, non-creatable, non-modifiable
severity		eventseverity optional	The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values: • "emergency" - Disruption, • "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information
snmp-support		boolean optional	Indicates whether or not the event supports SNMP traps. Attributes: non-creatable, non-modifiable
time-threshold	**[0..2^32-1]**	integer optional	Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable

Element definition: **event-filter-rule-info**

[top]

List of rules added to each filter.

Name	Range	Type	Description
message-name		string optional	Message Name Attributes: non-creatable, non-modifiable
position	**[0..2^32-1]**	integer optional	Rule Position Attributes: non-creatable, non-modifiable
			Severity Possible values: • 'emergency' - Disruption,

severity		string[] optional	• 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information, • '*' - All of the above Default:* Attributes: non-creatable, non-modifiable
snmp-trap-type		string[] optional	SNMP Trap Type Possible values: • 'standard' - Standard SNMP traps, • 'built-in' - Built-in SNMP traps, • 'severity-based' - Severity based SNMP traps • '*' - All of the above Default: * Attributes: non-creatable, non-modifiable
type		event-rule-type optional	Rule Type Attributes: non-creatable, non-modifiable Possible values: • "include" - Event(s) matching this rule is included in the specified filter, • "exclude" - Event(s) matching this rule is excluded in the specified filter

Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

Element definition: **mail-address** [top]

E-mail Address

[none]

Element definition: **parameter** [top]

Event parameter's name and value.

Name	Range	Type	Description
name		string optional	List of event parameter names. Attributes: non-creatable, non-modifiable
value		string optional	List of event parameter values. Attributes: non-creatable, non-modifiable

Element definition: **remote-ip** [top]

Remote IP Address

[none]

Element definition: **snmptraptypes** [top]

Standard|Built-in|Severity-based Possible values:

- "standard" - Standard SNMP traps,
- "built_in" - Built-in SNMP traps,
- "severity_based" - Severity based SNMP traps

[none]

Element definition: **syslog-facility** [top]

The syslog facility.

[none]

Element definition: **ems-destination**

[top]

EMS destination

[none]

Element definition: **ems-id**

[top]

EMS Id

[none]

APIs in Category: **environment**

environment-sensors-get-iter	Environmental subsystem is a module to monitor the system's environmental states by reading the hardware sensors on various components. According to the states of the sensors, the subsystem will take actions based on a predefined environmental policy. This category contains the APIs for the environmental subsystem.

environment-sensors-get-iter

[top]

Returns the sensors information from the environmental subsystem.

Input Name	Range	Type	Description
desired-attributes		environment-sensors-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
discrete-sensor-state		sensor-state-enum optional	Discrete-valued sensor state
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 300
query		environment-sensors-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the environment object. All environment objects matching this query up to 'max-records' will be returned.
sensor-name		string optional	Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32
sensor-type		sensor-type-enum optional	Type of the sensor. See sensor-type-enum for possible values
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
threshold-sensor-state		sensor-state-enum optional	Threshold-based sensor state

Output Name	Range	Type	Description
attributes-list		environment-sensors-info[] optional	The list of attributes of environment objects.
next-tag		string optional	Tag for the next call. Not present when there are no more environment objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **environment-sensors-info**

[top]

Environment Sensor Info. The environmental subsystem monitors a set of hardware sensors in the system. Each sensor represents a pair of state and value that can be measured to reflect the physical state of device(s). Based on the values the sensors represent, the sensors can be grouped to discrete-valued sensors and threshold-based sensors. The discrete-valued sensors have a set of discrete values that represent states of sensors. The threshold-based sensors have a numeral value that represnts a value on an axis, and may have a set of thresholds (points on that axis) are used to define the state of the sensor (ranging from critically low to critically high). This typedef defines the information for both groups of sensors. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
critical-high-threshold	**[-2^31..2^31-1]**	integer optional	Critical high threshold Attributes: non-creatable, non-modifiable
critical-low-threshold	**[-2^31..2^31-1]**	integer optional	Critical low threshold Attributes: non-creatable, non-modifiable
discrete-sensor-state		sensor-state-enum optional	Discrete-valued sensor state Attributes: non-creatable, non-modifiable Possible values: • "normal" - The device is normal, • "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold, • "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold, • "crit-low" - The device state is lower than the critical low threshold, • "crit-high" - The device state is higher than the critical higher threshold, • "disabled" - The sensor is disabled, only available for SP-based filers, • "uninitialized" - The sensor is not yet initialized, only available for SP-based filers, • "init-failed" - The sensor failed to initialize, only available for SP-based filers, • "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers, • "invalid" - The status returned from the sensor is not valid, only available for SP-based filers, • "retry" - The sensor is in the rety state, only available for non SP-based filers, • "bad" - The device is bad, only available for non SP-based filers, • "not-present" - The device is not present, only available for

			non SP-based filers, • "failed" - The sensor failed to report status, • "ignored" - The sensor state is ignored, only available for SP-based filers, • "unknown" - The sensor state is uknown
discrete-sensor-value		string optional	Discrete-valued sensor value Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node name the sensor is associated with Attributes: key, non-creatable, non-modifiable
sensor-name		string optional	Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32 Attributes: non-creatable, non-modifiable
sensor-type		sensor-type-enum optional	Type of the sensor Attributes: non-creatable, non-modifiable Possible values: • "fan" - FAN RPM sensors, • "thermal" - Temerature sensors, • "voltage" - Voltage measurement sensors, • "current" - Current measurement sensors, • "battery-life" - Sensors report battery life, • "discrete" - Discrete sensors, • "fru" - FRU sensors, • "nvmem" - Sensors on the NVMEM module, • "counter" - Sensors report in counters, • "minutes" - Sensors report by minutes, • "percent" - Sensors report in percentage, • "agent" - Sensors on or throught the Agent device, • "unknown" - Unknown sensors
threshold-sensor-state		sensor-state-enum optional	Threshold-based sensor state Attributes: non-creatable, non-modifiable Possible values: • "normal" - The device is normal, • "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold, • "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold, • "crit-low" - The device state is lower than the critical low threshold, • "crit-high" - The device state is higher than the critical higher threshold, • "disabled" - The sensor is disabled, only available for SP-based filers, • "uninitialized" - The sensor is not yet initialized, only available for SP-based filers, • "init-failed" - The sensor failed to initialize, only available for SP-based filers, • "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers, • "invalid" - The status returned from the sensor is not valid, only available for SP-based filers, • "retry" - The sensor is in the rety state, only available for non SP-based filers, • "bad" - The device is bad, only available for non SP-based filers, • "not-present" - The device is not present, only available for non SP-based filers,

			• "failed" - The sensor failed to report status, • "ignored" - The sensor state is ignored, only available for SP-based filers, • "unknown" - The sensor state is uknown
threshold-sensor-value	**[-2^31..2^31-1]**	integer optional	Threshold-based sensor value Attributes: non-creatable, non-modifiable
value-units		string optional	The units of the threshold-based sensor value. More than 90 possible unit types. Refer to the "Sensor Unit Type Codes" in the IPMI spec for possible types. Attributes: non-creatable, non-modifiable
warning-high-threshold	**[-2^31..2^31-1]**	integer optional	Warning high threshold Attributes: non-creatable, non-modifiable
warning-low-threshold	**[-2^31..2^31-1]**	integer optional	Warning low threshold Attributes: non-creatable, non-modifiable

Element definition: **sensor-state-enum**

[top]

normal|warn-low|warn-high|crit-low|crit-high|disabled|uninitialized|init-failed|not-available|invalid|retry|bad|not-present|failed|ignored|fault|unknown Possible values:

- "normal" ,
- "warn_low" ,
- "warn_high" ,
- "crit_low" ,
- "crit_high" ,
- "disabled" ,
- "uninitialized" ,
- "init_failed" ,
- "not_available" ,
- "invalid" ,
- "retry" ,
- "bad" ,
- "not_present" ,
- "failed" ,
- "ignored" ,
- "fault" ,
- "unknown"

[none]

Element definition: **sensor-type-enum**

[top]

fan|thermal|voltage|current|battery-life|discrete|fru|nvmem|counter|minutes|percent|agent|unknown Possible values:

- "fan" ,
- "thermal" ,

"voltage" ,
- "current" ,
- "battery_life" ,
- "discrete" ,
- "fru" ,
- "nvmem" ,
- "counter" ,
- "minutes" ,
- "percent" ,
- "agent" ,
- "unknown"

[none]

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **exports**

export-check-access-get-iter
export-policy-create
export-policy-destroy
export-policy-get
export-policy-get-iter
export-policy-rename
export-rule-add-clientmatches
export-rule-create
export-rule-destroy
export-rule-get
export-rule-get-create-defaults
export-rule-get-iter
export-rule-modify
export-rule-remove-clientmatches
export-rule-set-index
exports-access-cache-all-vservers-get
exports-access-cache-all-vservers-modify
exports-access-cache-config-get
exports-access-cache-config-get-iter
exports-access-cache-config-modify

This set of ZAPIs allows managing Export policies and rules for NFSv2, NFSv3, NFSv4, and CIFS protocols. Contains methods to create, modify, delete, and obtain information about Export policies and rules in a cluster. FlexGroups do not support Export policies that allow NFSv4 protocol access.

export-check-access-get-iter

[top]

Shows the access information for supplied client

Input Name	Range	Type	Description
access-type		export-access-rights	Access Rights to Check for
authentication-method		security-flavor	Authentication Method
client-ip		ip-address	Client IP Address
desired-attributes		export-check-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
protocol		access-protocol	Protocol
query		export-check-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Client access check information object. All Client access check information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
volume		volume-name	Volume Name

Output Name	Range	Type	Description
attributes-list		export-check-info[] optional	The list of attributes of Client access check information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Client access check information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

export-policy-create

[top]

Create an Export policy configuration.

Input Name	Range	Type	Description
policy-name		export-policy-name	Export policy name.
return-record		boolean optional	If set to true, returns the Export policy configuration. on successful creation. Default: false

Output Name	Range	Type	Description
result		export-policy-info optional	The Export policy configuration. created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

[top]

export-policy-destroy

Delete an Export policy configuration.

Input Name	Range	Type	Description
policy-name		export-policy-name	Export policy name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-policy-get

[top]

Get an Export policy configuration.

Input Name	Range	Type	Description
desired-attributes		export-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		export-policy-name	Export policy name.

Output Name	Range	Type	Description
attributes		export-policy-info	The attributes of the Export policy configuration..

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

export-policy-get-iter

[top]

Get a group of Export policy configurations.

Input Name	Range	Type	Description
desired-attributes		export-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		export-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Export policy configuration. object. All Export policy configuration. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		export-policy-info[] optional	The list of attributes of Export policy configuration. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Export policy configuration. objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

export-policy-rename

[top]

Rename an Export policy

Input Name	Range	Type	Description
new-policy-name		export-policy-name	New Export policy name.
policy-name		export-policy-name	Export policy name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-add-clientmatches

[top]

Add list of clientmatch strings to an existing export-policy rule

Input Name	Range	Type	Description
clientmatches		string	List of Clientmatch Strings to Add
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export policy rule index.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-create

[top]

Create an Export rule configuration.

Input Name	Range	Type	Description
anonymous-user-id		string optional	User name or ID to which anonymous users are mapped. Default value is '65534'.
client-match		string	List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence.
export-chown-mode		exportchownmode optional	Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'.
export-ntfs-unix-security-ops		exportntfsunixsecops optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'.
is-allow-dev-is-enabled		boolean optional	If 'true', the NFS server will allow creation of devices. Default value is 'true'.
is-allow-set-uid-enabled		boolean optional	If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'.
policy-name		export-policy-name	Export policy name.
protocol		access-protocol[] optional	Client access protocol. Default value is 'any'.
ro-rule		security-flavor[]	Rule for read-only access.
rule-index		integer optional	Export rule index. A next available value is assigned if no value is provided during create else the rule is inserted at the given rule index position in the export-rule table.
rw-rule		security-flavor[]	Rule for read-write access.
super-user-security		security-flavor[] optional	Security flavors for the superuser. Default value is 'none'.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-destroy

[top]

Delete an Export rule configuration.

Input Name	Range	Type	Description
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export rule index.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-get

[top]

Get an Export rule configuration.

Input Name	Range	Type	Description
desired-attributes		export-rule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export rule index.

Output Name	Range	Type	Description
attributes		export-rule-info	The attributes of the Export rule configuration..

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

export-rule-get-create-defaults

[top]

Obtain the default values for Export rule configuration

Input Name	Range	Type	Description
attributes		export-rule-info optional	Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute.

Output Name	Range	Type	Description
defaults		export-rule-info	The default attributes for the Export rule configuration..

export-rule-get-iter

[top]

Get a group of Export rule configurations.

Input Name	Range	Type	Description
desired-attributes		export-rule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		export-rule-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Export rule configuration. object. All Export rule configuration. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		export-rule-info[] optional	The list of attributes of Export rule configuration. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Export rule configuration. objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

export-rule-modify

[top]

Modify an Export rule configuration.

Input Name	Range	Type	Description
anonymous-user-id		string optional	User name or ID to which anonymous users are mapped. Default value is '65534'.
client-match		string optional	List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence.
export-chown-mode		exportchownmode optional	Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'.
export-ntfs-unix-security-ops		exportntfsunixsecops optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'.
is-allow-dev-is-		boolean	If 'true', the NFS server will allow creation of devices.

enabled		optional	Default value is 'true'.
is-allow-set-uid-enabled		boolean optional	If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'.
policy-name		export-policy-name	Export policy name.
protocol		access-protocol[] optional	Client access protocol. Default value is 'any'.
ro-rule		security-flavor[] optional	Rule for read-only access.
rule-index	**[0..2^32-1]**	integer	Export rule index.
rw-rule		security-flavor[] optional	Rule for read-write access.
super-user-security		security-flavor[] optional	Security flavors for the superuser. Default value is 'none'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-remove-clientmatches

[top]

Remove clientmatch strings from an existing export-policy rule

Input Name	Range	Type	Description
clientmatches		string	List of Clientmatch Strings to Remove
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export policy rule index.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-set-index

[top]

Move a rule to the specified index

Input Name	Range	Type	Description
new-rule-index	**[0..2^32-1]**	integer	New ruleindex value for the Export rule. The rule will be inserted into the rule-index position in the export-rule table.
policy-name		export-policy-name	Export policy name.

rule-index	**[0..2^32-1]**	integer	Export policy rule index.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

exports-access-cache-all-vservers-get

[top]

Get the NFS Exports Access Cache Refresh Periods.This API is deprecated in Data ONTAP 9.0.0 and later.

Input Name	Range	Type	Description
desired-attributes		access-cache-attributes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		access-cache-attributes-info	The attributes of the NFS Exports Access Cache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

exports-access-cache-all-vservers-modify

[top]

Modify the NFS Exports Access Cache Refresh Periods. This API is deprecated in Data ONTAP 9.0.0 and later.

Input Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	Harvest Timeout (Secs)
refresh-period-negative	**[60..86400]**	integer optional	TTL For Negative Entries (Secs)
refresh-period-positive	**[300..86400]**	integer optional	TTL For Positive Entries (Secs)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

exports-access-cache-config-get

[top]

Get the exports access cache configuration for the given Vserver.

Input Name	Range	Type	Description
desired-attributes		exports-access-cache-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		exports-access-cache-config-info	The attributes of the Exports Access Cache Configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

exports-access-cache-config-get-iter

[top]

Iterate over the list of Vservers for exports access cache configuration.

Input Name	Range	Type	Description
desired-attributes		exports-access-cache-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		exports-access-cache-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Exports Access Cache Configuration object. All Exports Access Cache Configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		exports-access-cache-	

list		config-info[] optional	The list of attributes of Exports Access Cache Configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Exports Access Cache Configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

exports-access-cache-config-modify

[top]

Modify the exports access cache configuration for the given Vserver.

Input Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds
ttl-failure	**[1..60]**	integer optional	TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds
ttl-negative	**[60..86400]**	integer optional	TTL in seconds for access cache entries that deny access. Default value is 3600 seconds
ttl-positive	**[300..86400]**	integer optional	TTL in seconds for access cache entries that allow access. Default value is 3600 seconds

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **access-cache-attributes-info**

[top]

NFS Exports Access Cache Attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	Harvest Timeout (Secs) Attributes: non-creatable, non-modifiable

refresh-period-negative	**[60..86400]**	integer optional	TTL For Negative Entries (Secs) Attributes: non-creatable, non-modifiable
refresh-period-positive	**[300..86400]**	integer optional	TTL For Positive Entries (Secs) Attributes: non-creatable, non-modifiable

Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

Element definition: **export-check-info**

[top]

Information about the client access. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			Access Rights Attributes: non-creatable, non-modifiable Possible values:

access		export-access-rights optional	• "read" - Read, • "read_write" - Read-Write, • "denied" - Denied
access-type		export-access-rights optional	Access Rights to Check for Attributes: key, non-creatable, non-modifiable Possible values: • "read" - Read, • "read_write" - Read-Write, • "denied" - Denied
authentication-method		security-flavor optional	Authentication Method Attributes: key, non-creatable, non-modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, • "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
client-ip		ip-address optional	Client IP Address Attributes: key, non-creatable, non-modifiable
path		string optional	Path Attributes: non-creatable, non-modifiable
policy		string optional	Export Policy Attributes: non-creatable, non-modifiable
policy-owner		string optional	Export Policy Owner Attributes: non-creatable, non-modifiable
policy-owner-type		policy-owner-type optional	Type of Export Policy Owner Attributes: non-creatable, non-modifiable Possible values: • "volume" - Volume, • "qtree" - Qtree
protocol		access-protocol optional	Protocol Attributes: key, non-creatable, non-modifiable Possible values: • "any" - Any, • "nfs2" - NFS Version 2, • "nfs3" - NFS Version 3, • "nfs" - Any Version of NFS, • "cifs" - CIFS, • "nfs4" - NFS Version 4, • "flexcache" - Flexcache, • "nfs4_1" - NFS Version 4.1, • "nfs4_2" - NFS Version 4.2
rule-index	**[0..2^32-1]**	integer optional	Export Policy Rule Index Attributes: non-creatable, non-modifiable
		security-	Security Style Attributes: non-creatable, non-modifiable Possible values: • "unix" - NFS,

security-style		style-enum optional	• "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **export-policy-info**

[top]

Information about the Export policy configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
policy-id	**[0..2^64-1]**	integer optional	Export policy id. Attributes: non-creatable, non-modifiable
policy-name		export-policy-name optional	Export policy name. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

Element definition: **export-rule-info**

[top]

Information about the Export rule configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
anonymous-user-id		string optional	User name or ID to which anonymous users are mapped. Default value is '65534'. Attributes: optional-for-create, modifiable
client-match		string optional	List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. Attributes: required-for-create, modifiable
export-chown-mode		exportchownmode optional	Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. Attributes: optional-for-create, modifiable Possible values: • "restricted" , • "unrestricted"
export-ntfs-unix-security-ops		exportntfsunixsecops optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. Attributes: optional-for-create, modifiable Possible values: • "ignore" , • "fail"
is-allow-dev-is-enabled		boolean optional	If 'true', the NFS server will allow creation of devices. Default value is 'true'. Attributes: optional-for-create, modifiable
is-allow-set-uid-enabled		boolean optional	If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. Attributes: optional-for-create, modifiable
policy-name		export-policy-name optional	Export policy name. Attributes: key, required-for-create, non-modifiable
protocol		access-protocol[] optional	Client access protocol. Default value is 'any'. Attributes: optional-for-create, modifiable Possible values: • "any" - Any, • "nfs2" - NFS Version 2, • "nfs3" - NFS Version 3, • "nfs" - Any Version of NFS, • "cifs" - CIFS, • "nfs4" - NFS Version 4, • "flexcache" - Flexcache, • "nfs4_1" - NFS Version 4.1, • "nfs4_2" - NFS Version 4.2
ro-rule		security-flavor[] optional	Rule for read-only access. Attributes: required-for-create, modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,

			• "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
rule-index	**[0..2^32-1]**	integer optional	Export rule index. Attributes: key, optional-for-create, non-modifiable
rw-rule		security-flavor[] optional	Rule for read-write access. Attributes: required-for-create, modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, • "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
super-user-security		security-flavor[] optional	Security flavors for the superuser. Default value is 'none'. Attributes: optional-for-create, modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, • "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
vserver-name		string optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **exportchownmode**

[top]

restricted|unrestricted Possible values:

- "restricted" ,
- "unrestricted"

[none]

Element definition: **exportntfsunixsecops**

[top]

ignore|fail Possible values:

"ignore" ,
- "fail"

[none]

Element definition: **exports-access-cache-config-info** [top]

Information about Exports Access Cache Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds Attributes: non-creatable, modifiable
ttl-failure	**[1..60]**	integer optional	TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds Attributes: non-creatable, modifiable
ttl-negative	**[60..86400]**	integer optional	TTL in seconds for access cache entries that deny access. Default value is 3600 seconds Attributes: non-creatable, modifiable
ttl-positive	**[300..86400]**	integer optional	TTL in seconds for access cache entries that allow access. Default value is 3600 seconds Attributes: non-creatable, modifiable
vserver		string optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **security-flavor** [top]

authentication method Possible values:

- "any" - Any,
- "none" - Anonymous Access Allowed If Security Type Not Already Listed,
- "never" - Never,
- "krb5" - Kerberos 5 Authentication,
- "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,

- "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,
- "ntlm" - CIFS NTLM,
- "sys" - NFS AUTH_SYS

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

Element definition: **policy-owner-type**

[top]

volume|qtree Possible values:

- "volume" - Volume,
- "qtree" - Qtree

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **fc**

fc-config-adapter-disable
fc-config-adapter-enable
fc-config-list-info
fc-config-list-iter-end
fc-config-list-iter-next
fc-config-list-iter-start
fc-config-set-adapter-fc-type

Data ONTAP supports three separate functions with Fibre channel controllers:

- Initiator mode for FC storage loops, FC TapeSAN, and OPR functionality
- Target mode for SAN attach (FCP/Blocks access) functionality
- FC-VI mode for MetroCluster/SlideRuler interconnect functionality

These three functions are controlled by separate drivers. As DOT boots, the device driver attached to each FC adapter determines which function an adapter will support.

The fc-config interface provides a user programmable mechanism to configure the personality of Fibre channel adapters by changing what driver attached to the adapter. Not all Fibre channel adapters support FC configuration.

For more information refer to the "fcadmin config" CLI.

fc-config-adapter-disable

[top]

Call the corresponding adapter driver disable function to bring the adapter offline. Under some circumstances an adapter can not be put offline. (e.g. when the adapter is being used by the RAID sub-system to provide disks in a volume). In some cases, manual intervention is required. When this happens, an appropriate error messages is returned.

Input Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g. 0a)
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
ENOTSTARTED	
EONTAPI_EINVAL	
ENODENOTFOUND	

fc-config-adapter-enable

[top]

Call the corresponding adapter driver enable function to bring the adapter online. Under some circumstances an adapter can not be brought online. (e.g. when that adapter is in the UNCONFIGURED

state, or when there is no cable attached to the adapter port). When this happens, an appropriate error messages is returned.

Input Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g 0a)
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
ENOTSTARTED	
EONTAPI_EINVAL	
ENODENOTFOUND	

fc-config-list-info

[top]

Iterate over a list of fc objects.

Input Name	Range	Type	Description
desired-attributes		fc-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fc-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fc object. All fc objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fc-config[] optional	The list of attributes of fc objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fc objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EINTERNALERROR	
EADAPTERNOTFOUND	

EADAPTERINVALIDTYPE	
ENOTSTARTED	
ENODENOTFOUND	

fc-config-list-iter-end

[top]

Terminate the fc-config-list iteration

Input Name	Range	Type	Description
tag		string	Tag from a previous fc-config-list-iter-start.

Errno	Description
EONTAPI_ENOENT	

fc-config-list-iter-next

[top]

Obtain a list of FC adapter configuration information. Only provides information for adapters that are configurable.

Input Name	Range	Type	Description
maximum		integer	Maximum number of entries to retrieve.
tag		string	Tag from a previous fc-config-list-iter-start.

Output Name	Range	Type	Description
adapter-info		fc-config-info[]	List of adapter information
records		integer	This tells you how many records are being returned. When this value is 0, you have retrieved everything.

Errno	Description
EONTAPI_ENOENT	

fc-config-list-iter-start

[top]

Start iteration through the list of adapter configuration information.

Output Name	Range	Type	Description
records		integer	Number of items that have been saved for future retrieval with fc-config-list-iter-next.
tag		string	Tag to be used in subsequent iterations.

Errno	Description
EINTERNALERROR	

EOPNOTSUPPORTED	

fc-config-set-adapter-fc-type

[top]

fc-config-set-adapter-fc-type changes the adapter driver and/or configuration state. Each configurable adapter has an adapter-type and adapter-state. The adapter-type indicates which driver is attached to the adapter, the adapter-state indicates what the configuration state of the adapter is. The fc-type is used to modify both the adapter-type and the adapter-state. After setting the adapter fc-type a filer reboot is sometimes needed to make the change effective. Use fc-config-list-info to determine if a filer reboot is needed.

Input Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g 0a)
fc-type		string	Sets the type and state of the adapter. Possible inputs: "unconfigured" - set adapter-type to "initiator" and adapter-state to UNCONFIGURED "initiator" - set adapter-type to "initiator" and adapter-state to CONFIGURED "target" - set adapter-type to "target" and adapter-state to CONFIGURED "vi" - set adapter-type to "vi" and adapter-state to CONFIGURED
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EOPNOTSUPPORTED	
EONTAPI_EINVAL	
ENODENOTFOUND	

Element definition: **fc-config**

[top]

fc config When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Adapter name Attributes: key, non-creatable, non-modifiable

adapter-state		string optional	Adapter current state Attributes: non-creatable, non-modifiable
adapter-status		string optional	Adapter online status Attributes: non-creatable, non-modifiable
adapter-type		string optional	Adaptaer type Attributes: non-creatable, non-modifiable
node-name		string optional	Node name Attributes: key, non-creatable, non-modifiable
pending-fc-type		string optional	Pending reason Attributes: non-creatable, non-modifiable

Element definition: **fc-config-info**

[top]

Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g. 0c)
adapter-state		string	Indicates what the adapter configuration state is. Possible values: "UNDEFINED" - The default state. The adapter has never been configured. "CONFIGURED" - The adapter port is configured and the adapter is operational. "UNCONFIGURED" - The adapter is unconfigured. The initiator driver is attached, but the adapter is not operational. "PENDING" - The adapter is waiting for a filer reboot to effect an fc-type change. While in the PENDING state the adapter can not be used
adapter-status		string	Possible values: "online" - adapter driver is enabled "offline" - adapter driver is disabled
adapter-type		string	Indicates which driver is attached to the adapter. Possible values: "initiator" - the storage Initiator driver (default) "vi" - the FC-VI cluster interconnect driver "target" - the FCP Target driver
pending-fc-type		string optional	If adapter-state is PENDING, this value tells what the last fc-config-set-adapter-fc-type command was.

APIs in Category: **fcp**

fcp-adapter-clear-partner
fcp-adapter-config-down
fcp-adapter-config-media-type
fcp-adapter-config-up
fcp-adapter-get-iter
fcp-adapter-initiators-list-info
fcp-adapter-list-info
fcp-adapter-nameserver-list-iter-end
fcp-adapter-nameserver-list-iter-next
fcp-adapter-nameserver-list-iter-start
fcp-adapter-reset-stats
fcp-adapter-set-partner
fcp-adapter-set-speed
fcp-adapter-stats-get-iter
fcp-adapter-stats-list-info
fcp-adapter-topology-list-iter-end
fcp-adapter-topology-list-iter-next
fcp-adapter-topology-list-iter-start
fcp-adapter-zone-list-iter-end
fcp-adapter-zone-list-iter-next
fcp-adapter-zone-list-iter-start
fcp-get-cfmode
fcp-initiator-get-iter
fcp-interface-get-iter
fcp-nameserver-get-iter
fcp-node-get-name
fcp-node-set-name
fcp-ping
fcp-ping-igroup-view-get-iter
fcp-ping-info
fcp-ping-initiator-get-iter
fcp-port-name-get-iter
fcp-port-name-list-info
fcp-port-name-set
fcp-port-name-swap
fcp-service-create
fcp-service-destroy
fcp-service-get-iter
fcp-service-start
fcp-service-status
fcp-service-stop
fcp-set-cfmode
fcp-tdz-get-iter
fcp-topology-get-iter
fcp-topology-port-get-iter
fcp-wwpnalias-get-alias-info
fcp-wwpnalias-get-iter
fcp-wwpnalias-remove
fcp-wwpnalias-set

fcp-zone-get-iter

fcp-adapter-clear-partner

[top]

Removes the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

Input Name	Range	Type	Description
fcp-adapter		string	Local FC adapter.

Errno	Description
EOPNOTSUPPORTED	

fcp-adapter-config-down

[top]

Bring a Fibre Channel target adapter offline. The adapter may not be offline immediately after the call returns, it may take up to a few seconds for the adapter to change state. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. adapter to change state. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC adapter to bring offline.
node		string	The name of the storage system node where the adapter is installed.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
ENTAPI_EINVAL	

fcp-adapter-config-media-type

[top]

Sets the link type on the Fibre Channel target adapter. It can be configured to establish a point-to-point link, a loop configuration or to automatically sense whether the connection type is a point-to-point or loop link. Setting the link to point-to-point in a loop configuration can prevent the loop from coming up properly. If the adapter is online, it must be brought offline and then online in order for a new mediatype to take effect. This may temporarily disrupt fcp service on the target adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC adapter to bring offline.

media-type		string	Media type to set. Valid values are point-to-point ("ptp"), loop configuration ("loop"), or automatic ("auto").

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
ECLUSTERED	
EONTAPI_EINVAL	

fcp-adapter-config-up

[top]

Bring a Fibre Channel target adapter online. The adapter may not be online immediately after the call returns, it may take up to a few seconds for the adapter to initialize. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC adapter to bring online.
node		string	The name of the storage system node where the adapter is installed.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
EONTAPI_EINVAL	

fcp-adapter-get-iter

[top]

Iterate over the list of physical FC adapters.

Input Name	Range	Type	Description
desired-attributes		fcp-config-adapter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-config-adapter-	A query that specifies which objects to return. A query could be specified on any number of attributes in the FC Adapter object. All

		info optional	FC Adapter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-config-adapter-info[] optional	The list of attributes of FC Adapter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FC Adapter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to the specified Fibre Channel target adapter, or if none specified, a list of initiators connected to any FC target adapter. Information returned for each initiator includes the portname of initiators that are currently logged in with the the FC target adapters. If the portname is in an initiator group, then the group name is also included. Also the Fibre Channel host address and the nodename/portname of the initiators are included as well. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurred for while retrieving connection status for an adapter, status for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any fcp adapter in the system.

Output Name	Range	Type	Description
fcp-adapters		fcp-adapter-initiators-info[]	A list of FC adapters containing list of initiators and their aliases.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-adapter-list-info

[top]

Gets information such as nodename/portname and link state about the specified Fibre Channel target adapter, or if no adapter is specified, about all the FC target adapters.

Input Name	Range	Type	Description
fcp-adapter		string optional	FC target Adapter to get config information for. If no adapter is specified, information is returned for all FC target Adapters.
partner-only		boolean optional	This field is obsolete and no longer used beginning with Data ONTAP 8.0.
verbose		boolean optional	If specified with "true", additional adapter info is returned. Look at description of output for what additions.

Output Name	Range	Type	Description
fcp-config-adapters		fcp-config-adapter-info[]	List of adapter configuration information.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
ENOADAPTERNOTFOUND	
ENOVIRTUALADAPTERS	

Vfiler-enabled
Yes

fcp-adapter-nameserver-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous fcp-adapter-nameserver-list-iter-start.

Vfiler-enabled
Yes

fcp-adapter-nameserver-list-iter-next

[top]

Return items from a previous call to fcp-adapter-nameserver-list-iter-start Information returned for each nameserver entry include the port identifier, port type, port name, node name, symbolic port name, symbolic node name, fabric port name, class of service, and registered FC4 types.

Input Name	Range	Type	Description

maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous fcp-adapter-nameserver-list-iter-start.

Output Name	Range	Type	Description
fcp-adapter-nameserver-objects		fcp-adapter-nameserver-object-info[]	List of nameserver objects.
records		integer	This tells you how many records are being returned from this particular call to fcp-adapter-nameserver-list-iter-next When this value is 0, you have retrieved everything.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fcp-adapter-nameserver-list-iter-start

[top]

Get the fabric nameserver objects the results of which are retrieved by using fcp-adapter-nameserver-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get nameserver objects for. If no adapter is specified, information is returned for all fcp adapter.
zoned		boolean optional	If true, returns only devices that are zoned to the target adapter. Otherwise, all devices in the fabric are returned. Default is false.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with fcp-adapter-nameserver-list-iter-next.
tag		string	Tag to be used in subsequent calls to fcp-adapter-nameserver-list-iter-next.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-adapter-reset-stats

[top]

Resets the stats for the specified Fibre Channel Target Adapter. If none specified, reset stats for all FC adapters.

Input Name	Range	Type	Description
fcp-adapter		string optional	FC Target adapter.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

fcp-adapter-set-partner

[top]

Sets the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

Input Name	Range	Type	Description
fcp-adapter		string	Local FC adapter.
partner-adapter		string	Partner FC adapter to takeover.

Errno	Description
EOPNOTSUPPORTED	

fcp-adapter-set-speed

[top]

Sets the speed on the Fibre Channel target adapter. It can be configured to run at 1Gb, 2Gb, 4Gb, 8Gb, 10Gb, 16Gb or to auto negotiate. The 10Gb adapter only supports the 10Gb speed. The 16Gb adapter only supports speeds of 16Gb, 8Gb, and 4Gb. The 8Gb adapter only supports speeds of 8Gb, 4Gb, and 2Gb. The 4Gb adapter only supports speeds of 4Gb, 2Gb, and 1Gb. If the adapter is online it must be brought offline before setting the speed, and then online in order for a new speed to take effect. This may temporarily disrupt fcp service on the target adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC Target adapter
node		string	The name of the storage system node where the adapter is installed.
speed		string	Link speed (in Gb). Possible values: "1", "2", "4", "8", "10", "16" or "auto" (auto negotiate speed).

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
EONTAPI_EINVAL	

fcp-adapter-stats-get-iter

[top]

Iterate over a list of fcp objects.

Input Name	Range	Type	Description
desired-attributes		fcp-adapter-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-adapter-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fcp object. All fcp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-adapter-stats-info[] optional	The list of attributes of fcp objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fcp objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-adapter-stats-list-info

[top]

Get statistics about the Fibre Channel target adapters. Statistics of adapters running on behalf of partners are not included in the list when requesting stats for all adapters. If listing stats for all adapters and an error occurred for while retrieving stats for an adapter, stats for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	FC target Adapter. If no adapter is specified, statistics for all the adapters are returned.

Output Name	Range	Type	Description
fcp-adapter-		fcp-adapter-	List of statistics for FC adapters.

stats		stats-info[]	

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

fcp-adapter-topology-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous fcp-adapter-topology-list-iter-start.

Vfiler-enabled
Yes

fcp-adapter-topology-list-iter-next

[top]

Return items from a previous call to fcp-adapter-topology-list-iter-start Information returned for each switch includes the nodename, logical name, domain identifier, vendor, release version, and port information. If a port has devices attached to it, then information about each attached device is included as well.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous fcp-adapter-topology-list-iter-start.

Output Name	Range	Type	Description
fcp-adapter-topology-switches		fcp-adapter-topology-switch-info[]	Information about the connected FC switch.
records		integer	This tells you how many records are being returned from this particular call to fcp-adapter-topology-list-iter-next When this value is 0, you have retrieved everything.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fcp-adapter-topology-list-iter-start

[top]

Get the fabric topology for one or more switches the results of which are retrieved by using fcp-adapter-topology-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, information for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get topology information for. If no adapter is specified, information is returned for all fcp adapter.
verbose		boolean optional	If true, returns verbose information including port information about each switch in the fabric. Default is true.
zoned		boolean optional	If true, returns only devices in the fabric that are zoned to the target adapter. Default is false.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with fcp-adapter-topology-list-iter-next.
tag		string	Tag to be used in subsequent calls to fcp-adapter-topology-list-iter-next.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-adapter-zone-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous fcp-adapter-zone-list-iter-start.

Vfiler-enabled
Yes

fcp-adapter-zone-list-iter-next

[top]

Return items from a previous call to fcp-adapter-zone-list-iter-start Information returned for each zone entry include the active zone set name, the zone name, and the zone members.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range: [0..2^32-1]
tag		string	Tag from a previous fcp-adapter-zone-list-iter-start.

Output Name	Range	Type	Description
fcp-adapter-zones		fcp-adapter-zone-info[]	List of zone entries.
records		integer	This tells you how many records are being returned from this particular call to fcp-adapter-zone-list-iter-next When this value is 0, you have retrieved everything. Range: [0..2^32-1]

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fcp-adapter-zone-list-iter-start

[top]

Get the active zone set information from the zone server. The results can then be retrieved by using fcp-adapter-zone-list-iter-next. Connectivity of adapters running on behalf of partners is not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get zone information for. If no adapter is specified, information is returned for all fcp adapter.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with fcp-adapter-zone-list-iter-next. Range: [0..2^32-1]
tag		string	Tag to be used in subsequent calls to fcp-adapter-zone-list-iter-next.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-get-cfmode

[top]

Get the current cfmode setting for the system.

Output Name	Range	Type	Description
fcp-cfmode		string	Current FCP cfmode setting. Possible values: single_image, unknown

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	

fcp-initiator-get-iter

[top]

List all initiators connected to FCP target LIFs.

Input Name	Range	Type	Description
desired-attributes		fcp-adapter-initiators-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-adapter-initiators-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the connected FCP initiator object. All connected FCP initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-adapter-initiators-info[] optional	The list of attributes of connected FCP initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more connected FCP initiator objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-interface-get-iter

[top]

Iterate over a list of FCP Target Logical Interfaces (LIF).

Input Name	Range	Type	Description
desired-attributes		fcp-interface-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP data LIF object. All FCP data LIF objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-interface-info[] optional	The list of attributes of FCP data LIF objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP data LIF objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-nameserver-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

Input Name	Range	Type	Description
desired-attributes		fcp-nameserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-nameserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric name server database. object. All Shows entries in the fabric name server database. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-nameserver-info[] optional	The list of attributes of Shows entries in the fabric name server database. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows entries in the fabric name server database. objects to

			return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-node-get-name

[top]

Get the current FCP World Wide Node Name (WWNN). This WWNN name is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. In Data ONTAP 7-Mode, this is the WWNN of the individual storage system. In "single_image" cfmode, the WWNN of the system and its high availability partner will be the same. In Data ONTAP Cluster-Mode, this is the WWNN of the Vserver FCP Service.

Output Name	Range	Type	Description
node-name		string	Current FCP World Wide Node Name (WWNN).

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

fcp-node-set-name

[top]

Set the current FCP World Wide Node Name (WWNN). This WWNN is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. The provided WWNN must also be within one of the allowed vendor-registered namespaces unless the force parameter is specified. In Data ONTAP 7-Mode, all Fibre Channel adapters must be offline. The allowed vendor namespace is "50:0a:09:80:8X:XX:XX". Changes will take place when the adapters are brought online. In Data ONTAP Cluster-Mode, the FCP service must be offline. The allowed vendor namespace is one of following:

- 2X:XX:00:a0:98:XX:XX:XX
- 2X:XX:00:a0:b8:XX:XX:XX
- 2X:XX:d0:39:ea:XX:XX:XX

Changes will take place when the service is brought online.

Input Name	Range	Type	Description
force		boolean optional	If true, allow setting the WWNN to a value outside the vendor's registered namespace for the current mode. If false or not present, the request will fail unless the supplied WWNN is inside the correct namespace.
node-name		string	FCP World Wide Node Name.

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EALREADYSTARTED	
EOPNOTSUPPORTED	

EVDISK_ERROR_DUPLICATE_TARGET_NAME	
E_SAN_NOT_READY	

fcp-ping

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged.

Input Name	Range	Type	Description
fcp-adapter		string	Adapter to send the ping request from.
payload		string optional	Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long.
port-id-or-wwpn		string	The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.

Errno	Description
EHOSTNOTFOUND	
EONTAPI_EHOSTDOWN	
EADAPTERNOTFOUND	
EONTAPI_EINVAL	

fcp-ping-igroup-view-get-iter

[top]

Iterate over a list of FCP ping igroup results objects.

Input Name	Range	Type	Description
desired-attributes		fcp-ping-igroup-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-ping-igroup-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping igroup results object. All FCP ping igroup results objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		fcp-	

attributes-list		ping-igroup-status-info[] optional	The list of attributes of FCP ping igroup results objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP ping igroup results objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-ping-info

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. The API pings the address or WWPN count times and returns the number of successful pings and times. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged. The interval between ping attempts is 1 second.

Input Name	Range	Type	Description
fcp-adapter		string	Adapter to send the ping request from.
payload		string optional	Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long.
ping-count		integer optional	The number of pings. Default is 3. Range: [1..16]
port-id-or-wwpn		string	The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.

Output Name	Range	Type	Description
frames-received		integer optional	The number of frames received. The number of frames lost is the frames-transmitted minus frames-received. Range: [0..16]
frames-transmitted		integer optional	Number of frames transmitted. Should be equal to ping-count. Range: [1..16]
round-trip-maximum-time		integer optional	Maximum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1]
round-trip-mean-time		integer optional	Mean time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1]
round-trip-minimum-time		integer optional	Minimum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1]

Errno	Description
EHOSTNOTFOUND	
EONTAPI_EHOSTDOWN	
EADAPTERNOTFOUND	
EONTAPI_EINVAL	

fcp-ping-initiator-get-iter

[top]

Iterate over a list of FCP ping by FCP initiator objects.

Input Name	Range	Type	Description
desired-attributes		fcp-ping-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-ping-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping by FCP initiator object. All FCP ping by FCP initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-ping-status-info[] optional	The list of attributes of FCP ping by FCP initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP ping by FCP initiator objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-port-name-get-iter

[top]

Iterate over the list of valid Fibre Channel target port names on a Vserver's FCP LIFs.

Input Name	Range	Type	Description
desired-attributes		fcp-port-name-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
		fcp-	

query		port-name-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Fibre Channel target port name object. All Fibre Channel target port name objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-port-name-info[] optional	The list of attributes of Fibre Channel target port name objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Fibre Channel target port name objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-port-name-list-info

[top]

Get the list of valid Fibre Channel target port names on a filer's local adapters. The filer needs to be in standby or single_image cfmode.

Input Name	Range	Type	Description
verbose		boolean optional	If specified with "true", unused port names are also reported. Default value is "false".

Output Name	Range	Type	Description
fcp-port-names		fcp-port-name-info[]	List of valid local port names and associated adapters.

Errno	Description
EOPNOTSUPPORTED	
EADAPTERNOTFOUND	

fcp-port-name-set

[top]

Set a valid but unused port name on a Fibre Channel target interface.

Input Name	Range	Type	Description
fcp-adapter		string	FCP target interface to set the WWPN on. In Data ONTAP 7-Mode, the name of a local adapter in standby single_image cfmode. In Data ONTAP Cluster-Mode, the name of an FCP data LIF in the vserver.

port-name		string	WWPN to be set on the interface. It has to be a valid and unused one.

Errno	Description
EOPNOTSUPPORTED	
EONTAPI_EINVAL	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EINTERNALERROR	
EALREADYSTARTED	
E_SAN_NOT_READY	

fcp-port-name-swap

[top]

Swap port names of two local Fibre Channel target adapters.

Input Name	Range	Type	Description
fcp-adapter-1		string	One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode.
fcp-adapter-2		string	One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode.

Errno	Description
EOPNOTSUPPORTED	
EONTAPI_EINVAL	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EINTERNALERROR	
EALREADYSTARTED	
E_SAN_NOT_READY	

fcp-service-create

[top]

Create an FCP Service in a Vserver. Each Vserver requires an online FCP Service in order to serve data via the Fibre Channel protocol.

Input Name	Range	Type	Description
force-node-name		boolean optional	If true, allow setting the WWNN to a value outside the vendor's registered namespaces. If false, the node-name must match one of the following namespaces: • 2X:XX:00:a0:98:XX:XX:XX • 2X:XX:00:a0:b8:XX:XX:XX • 2X:XX:d0:39:ea:XX:XX:XX . The default i false.
node-name		string optional	The FCP World Wide Node Name (WWNN) for the FCP service. If not provided, one will be auto-generated.

start		boolean optional	Determine the initial state of the FCP Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call fcp-service-start to start the service. The default is true.

Output Name	Range	Type	Description
node-name		string	The world-wide node name (WWNN) of the FCP target in the Vserver.

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EVDISK_ERROR_DUPLICATE_TARGET_NAME	
EONTAPI_EEXIST	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
FCP

fcp-service-destroy

[top]

Destroy the FCP Service in a Vserver.

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
FCP

fcp-service-get-iter

[top]

Iterate over the list of FCP Services.

Input Name	Range	Type	Description
desired-attributes		fcp-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		fcp-	A query that specifies which objects to return. A query could be

query		service-info optional	specified on any number of attributes in the FCP Service object. All FCP Service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-service-info[] optional	The list of attributes of FCP Service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP Service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-service-start

[top]

Starts FCP service. When FCP service is started, the adapters are brought online. The service will be available once the call returns with success. The adapters however, may not be available immediately after the call, it may take up to a few seconds for the adapters to initialize.

Errno	Description
EINTERNALERROR	
EALREADYSTARTED	
VDISK_ERROR_CFMODE_MISMATCH	
VDISK_ERROR_PARTNER_NOT_REACHABLE	
EREVERTINPROGRESS	
VDISK_ERROR_PARTNER_WWNN_MISMATCH_FOR_SSI	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	

fcp-service-status

[top]

Get status of the FCP service, whether or not it is running.

Output Name	Range	Type	Description
is-available		boolean	"true" if FCP service is running, "false" otherwise.

Errno	Description
EINTERNALERROR	

fcp-service-stop

[top]

Stops FCP service. When FCP service is stopped, the adapters are brought offline. The service will be unavailable once the call returns with success.

Errno	Description
EINTERNALERROR	
ENOTSTARTED	
E_SAN_NOT_READY	

fcp-set-cfmode

[top]

Set the current cfmode setting for the system. This setting controls how the cluster behaves during a takeover/giveback. It also controls if the filer should use multiple virtual target adapters per physical target adapter. fcp service must be stopped before executing this API. The only valid value for cfmode is 'single_image' If cfmode is set to 'single_image' the filer connects to the FC fabric in ptp mode by default but is configurable, and all luns in the cluster are visible on all FC target ports. In this mode all hosts require multipathing software. When setting the cfmode to 'single_image' configuration checks are performed. If these checks fail an EPERM error will be returned. See the lun-config-check-single-image-info API for more information.

Input Name	Range	Type	Description
fcp-cfmode		string	Set current cfmode setting. Possible values: single_image
force		boolean optional	Forcibly change the cfmode, overriding cluster partner checks. Obsolete.

Errno	Description
ENOTCLUSTERED	
ESERVICENOTSTOPPED	
EINTERNALERROR	
EONTAPI_EINVAL	
EONTAPI_EPERM	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_IN_TAKEOVER	

fcp-tdz-get-iter

[top]

Iterates over the list of entries in the tdz database.

Input Name	Range	Type	Description
desired-attributes		fcp-tdz-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-tdz-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric tdz database. object. All Shows entries in the fabric tdz database. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-tdz-info[] optional	The list of attributes of Shows entries in the fabric tdz database. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows entries in the fabric tdz database. objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-topology-get-iter

[top]

Iterates over the list of FCP topology interconnect elements.

Input Name	Range	Type	Description
desired-attributes		fcp-topology-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-topology-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Show FCP topology interconnect elements. object. All Show FCP topology interconnect elements. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-topology-info[] optional	The list of attributes of Show FCP topology interconnect elements. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Show FCP topology interconnect elements. objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

fcp-topology-port-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

Input Name	Range	Type	Description
desired-attributes		fcp-topology-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-topology-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows FCP topology interconnect elements per adapter. object. All Shows FCP topology interconnect elements per adapter. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-topology-port-info[] optional	The list of attributes of Shows FCP topology interconnect elements per adapter. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows FCP topology interconnect elements per adapter. objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-wwpnalias-get-alias-info

[top]

Get the list of WWPN for a given alias or an alias for for a given WWPN or complete list of all current alias- WWPN mappings.

Input Name	Range	Type	Description
alias		string optional	Alias for a WWPN is the 32-character alias that may contain A-Z, a-z, 0-9, _,-,.,{,} and no spaces. When supplied, the alias with the corresponding WWPN will be returned. Otherwise, all aliases with their

			WWPNs present in the system will be returned.
wwpn		string optional	WWPN for which all aliases will be returned. When supplied all aliases for that WWPN will be returned. Otherwise, all aliases with their WWPNs present in the system will be returned.

Output Name	Range	Type	Description
aliases		aliases-info[]	A list of alias-WWPN mappings

Errno	Description
EVDISK_ERROR_WWPN_ALIASES_NOT_SET	
EVDISK_ERROR_WWPN_ALIAS_INVALID	
EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS	

Vfiler-enabled
Yes

fcp-wwpnalias-get-iter

[top]

Iterate over the list of assigned World Wide Port Name (WWPN) aliases.

Input Name	Range	Type	Description
desired-attributes		aliases-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aliases-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the WWPN aliases object. All WWPN aliases objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aliases-info[] optional	The list of attributes of WWPN aliases objects.
next-tag		string optional	Tag for the next call. Not present when there are no more WWPN aliases objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-wwpnalias-remove

[top]

Remove an alias for a World Wide Port Name of an initiator. Either the alias or the wwpn argument must be provided.

Input Name	Range	Type	Description
alias		string optional	WWPN Alias to be removed. Either the alias or the wwpn argument must be provided.
wwpn		string optional	WWPN for which all aliases are to be removed. Either the wwpn or the alias argument must be provided.

Errno	Description
EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND	
EVDISK_ERROR_WWPN_NOT_FOUND	
EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS	

fcp-wwpnalias-set

[top]

Set an alias for a World Wide Port Name of an initiator that might login to the target.

Input Name	Range	Type	Description
alias		string	Alias to be set for the given WWPN ("wwpn"); The alias can be 32-characters long and may contain: A-Z, a-z, 0-9, _,-,.,{,} and no spaces
force		boolean optional	When set to true, the WWPN associated with the alias will be over-written. Default value is false.
wwpn		string	WWPN for which alias is being set

Errno	Description
EVDISK_ERROR_WWPN_ALIASES_TOO_MANY	
EVDISK_ERROR_WWPN_ALIAS_INVALID	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_WWPN_ALIAS_ALREADY_SET	

fcp-zone-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

Input Name	Range	Type	Description
desired-attributes		fcp-zone-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		fcp-zone-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows the active zone set information. object. All Shows the active zone set information. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-zone-info[] optional	The list of attributes of Shows the active zone set information. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows the active zone set information. objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **aliases-info**

[top]

A list of WWPNs and their aliases generated according to the input - alias, WWPN or nothing.

Name	Range	Type	Description
aliases-alias		string	The 32-character alias for a given FCP WWPN
aliases-wwpn		string	The FCP WWPN for which the alias is given
vserver		string optional	Vserver containing the alias

Element definition: **fcp-adapter-initiators-info**

[top]

A list of initiators currently connected to the FC adapter or FCP data LIF.

Name	Range	Type	Description
adapter		string	In Data ONTAP 7-Mode, the name of the physical FC adapter. In Data ONTAP Cluster-Mode, the name of the FC data LIF.
data-protocol		fcp-adapter-data-protocol optional	The data protocol of the LIF. This field is available in Data ONTAP 9.4 and later.
fcp-connected-initiators		fcp-connected-initiator-info[]	Information about the connected initiators
vserver		string optional	Vserver of the FCP LIF.

Element definition: **fcp-adapter-nameserver-object-info**

[top]

Information about a nameserver object entry.

Name	Range	Type	Description
adapter		string	The adapter this nameserver object is visible through.
class-service		string optional	Registered class of services as defined in the FC-FS standard. This element is omitted if the device has not registered a class of service. Comma separated possible values: "F", "1", "2", "3", "4", and "6".
fabric-port-name		string optional	Fabric world wide port name (WWPN) of this entry. This element is omitted if the fabric WWPN is not registered.
fc4-type		string optional	Registered FC4 Types. This element is omitted if the device has not registered an FC4 Type. Comma separated possible values: "llc/snap", "ipfc", "fcp", "gpp", "ipi-3m", "ipi-3s", "ipi-3p", "sbccs-ch", "sbccs-cu", "fc-sb-3_ch2cu", "fc-sb-3_cu2ch", "fc-gs", "fc-sw", "fc-al", "snmp", "hippi-fp", "mil-std-1553", "asm", "fc-vi", and "fc-av".
node-name		string optional	World wide node name (WWNN) of this entry. This element is omitted if the device has not registered a WWNN.
port-id		integer	Assigned port identifier of this entry. Range: [0..2^24-1]
port-name		string optional	World wide port name (WWPN) of this entry. This element is omitted if the device has not registered a WWPN.
port-type		string	Port type of this entry. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none".
symbolic-node-name		string optional	Registered symbolic node name. If the device has not registered one, this element will be omitted.
symbolic-port-name		string optional	Registered symbolic port name. If the device has not registered one, this element will be omitted.

Element definition: **fcp-adapter-stats-info**

[top]

Statistics for one FC adapter. Starting Data ONTAP 8.3, the SFP related attributes have been superseded by the same attributes in type fcp-config-adapter-info, and are retained in here for compatibility only.

Name	Range	Type	Description
adapter		string	Which FC adapter.
adapter-resets		integer	Number of adapter resets occurred.
crc-errors		integer	Total CRC errors occurred.
discarded-frames		integer	Number of frames discarded by the target HBA. Range [0..2^31-1]
frame-overruns		integer	Number of frame overruns detected by the adapter during write requests.
frame-underruns		integer	Number of frame underruns detected by the adapter during read requests.
initiators-		integer	Total number of initiators connected to this target adapter.

connected			
invalid-xmit-words		integer	Number of invalid words transmitted. Range [0..2^31-1]
is-sfp-diagnostics-internally-calibrated		boolean optional	Indicates if the SFP diagnostics are internally calibrated or not. The optional SFP rx/tx fields are invalid (and therefore not provided) if the SFP diagnostics are not internally calibrated.
is-sfp-optical-transceiver-valid		boolean	Validity of the optical transceiver. Until Data ONTAP 8.0.0, this field was incorrectly named "is-spf-optical-transceiver-valid". While that field is also returned for backward compatibility, all new applications must use the current version.
is-sfp-rx-power-in-range		boolean optional	Flag to indicate received optical power is in range.
is-sfp-tx-power-in-range		boolean optional	Flag to indicate transmitted optical power is in range.
link-breaks		integer	Number of times that the link breaks.
lip-resets		integer	Number of times that a selective Reset LIP (Loop Initialization Primitive) occurred. LIP reset is used to preform a vendor-specific reset at the loop port specified by the AL-PA value.
lr-received		integer	Number of LRs (Link Reset) received by the target HBA. Range [0..2^31-1]
lr-sent		integer	Number of LRs (Link Reset) sent from the target HBA. Range [0..2^31-1]
node		node-name	The name of the node where the adapter is installed.
nos-received		integer	Number of NOSs (Not_Operational Primitive Sequence)received by the target HBA. Range [0..2^31-1]
ols-received		integer	Number of OLSs (Offline Primitive Sequence) received by the target HBA. Range [0..2^31-1]
protocol-errors		integer	Number of protocol errors occurred. Range [0..2^31-1]
queue-depth		integer	Counts the queue depth on the target HBA.
scsi-requests-dropped		integer	Number of SCSI requests being dropped.
sfp-connector		string optional	Connector used with the optical transceiver.
sfp-date-code		string optional	Date code for the optical transceiver.
sfp-encoding		string optional	Encoding used with the optical transceiver. Possible values ["8B10B", "?????"]
sfp-fc-speedcapabilities		string optional	FC speed capabilities for the optical transceiver. Possible values [1, 2, 4, 8 in Gbps]
sfp-formfactor		string optional	Form factor of the optical transceiver. Possible values: "SFP" (for Small FormFactor).
sfp-part-number		string optional	Part number for the optical transceiver.
sfp-rev		string optional	Revision for the optical transceiver.
sfp-rx-power		string optional	SFP received optical power, reported to tenth decimal in uWatts.
sfp-serial-number		string optional	Serial number for the optical transceiver.
sfp-tx-power		string optional	SFP transmitted optical power, reported to tenth decimal in uWatts.
		string	

sfp-vendor-name		optional	Vendor name for the optical transceiver.
sfp-vendor-oui		string optional	Vendor OUI (The IEEE Organizationally Unique Identifier) for the optical transceiver.
sfp-wavelength		integer optional	Wavelength for the optical transceiver. Measured in nanometers. Range [830..860]
spurious-interrupts		integer	Count of spurious interrupts.
total-logins		integer	Counts the times of initiators added. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1.
total-logouts		integer	Counts the times of initiators removed. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1.

Element definition: **fcp-adapter-topology-switch-info**

[top]

Information about an FC switch connected to an FC adapter.

Name	Range	Type	Description
adapter		string	The name of the adapter this switch is visible through.
domain		integer	The domain identifier of the FC switch. Range: [1..255]
fcp-adapter-topology-switch-ports		fcp-adapter-topology-switch-port-info[] optional	List of ports for the FC switch. This is only returned if verbose is set to true.
logical-name		string	The logical name of the FC switch. The maximum length is 64.
node-name		string	Node name of the FC switch. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
port-count		integer	The number of ports discovered on the FC switch. Range: [0..2^32-1]
release		string	The release version of the FC switch. The maximum length is 64.
vendor		string	The name of the FC switch vendor. The maximum length is 64.

Element definition: **fcp-adapter-zone-info**

[top]

Information about a zone.

Name	Range	Type	Description
adapter		string	The adapter this zone is visible through.
fcp-adapter-zone-members		fcp-adapter-zone-member-info	List of zone members.

zone-name		string	The name of the zone. The maximum length is 64.
zone-set-name		string	The name of the zone set containing this zone. The maximum length is 64.

Element definition: **fcp-config-adapter-info**

[top]

Configuration information for one FC adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter		string optional	Adapter Attributes: key, non-creatable, non-modifiable
connection-established		fcp-connection optional	Connection Established Attributes: non-creatable, non-modifiable Possible values: • "loop" , • "ptp"
data-link-rate	**[0..2^32-1]**	integer optional	Data Link Rate (Gbit) Attributes: non-creatable, non-modifiable
data-protocols-supported		fcp-adapter-data-protocol[] optional	Data Protocols Supported Attributes: non-creatable, non-modifiable Possible values: • "fcp" , • "fc_nvme"
fabric-established		boolean optional	Fabric Established Attributes: non-creatable, non-modifiable
fabric-name		string optional	Fabric Name Attributes: non-creatable, non-modifiable
firmware-rev		string optional	Firmware Revision Attributes: non-creatable, non-modifiable
hardware-rev		string optional	Hardware Revision Attributes: non-creatable, non-modifiable
info-name		string optional	Description Attributes: non-creatable, non-modifiable
is-sfp-diagnostics-internally-calibrated		boolean optional	Is Internally Calibrated Attributes: non-creatable, non-modifiable
is-sfp-optical-transceiver-valid		boolean optional	Validity Of Transceiver Attributes: non-creatable, non-modifiable
is-sfp-rx-in-los		boolean optional	Is Receiver In LOS Attributes: non-creatable, non-modifiable
is-sfp-rx-power-in-range		boolean optional	Is Received Power In Range Attributes: non-creatable, non-modifiable
is-sfp-tx-in-disable		boolean	Is Xmit Disabled Attributes: non-creatable, non-

		optional	modifiable
is-sfp-tx-in-fault		boolean optional	Is Xmit In Fault Attributes: non-creatable, non-modifiable
is-sfp-tx-power-in-range		boolean optional	Is Xmit Power In Range Attributes: non-creatable, non-modifiable
max-speed		integer optional	Maximum Speed Attributes: non-creatable, non-modifiable
media-type		string optional	Mediatype Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
node-name		string optional	Adapter WWNN Attributes: non-creatable, non-modifiable
physical-protocol		string optional	Physical Protocol Attributes: non-creatable, non-modifiable
port-address	**[0..2^32-1]**	integer optional	Host Port Address Attributes: non-creatable, non-modifiable
port-name		string optional	Adapter WWPN Attributes: non-creatable, non-modifiable
sfp-connector		string optional	Connector Used Attributes: non-creatable, non-modifiable
sfp-date-code		string optional	Date Code Of Transceiver Attributes: non-creatable, non-modifiable
sfp-ddm-capabilities		string optional	Status Monitoring Available Attributes: non-creatable, non-modifiable
sfp-ddm-status-control	**[0..2^32-1]**	integer optional	DDM Status Attributes: non-creatable, non-modifiable
sfp-diagnostic-monitoring-type	**[0..2^32-1]**	integer optional	Diagnostic Monitoring Type Attributes: non-creatable, non-modifiable
sfp-encoding		string optional	Encoding Used Attributes: non-creatable, non-modifiable
sfp-fc-speedcapabilities		string optional	FC Capabilities Of Transceiver Attributes: non-creatable, non-modifiable
sfp-formfactor		string optional	Form Factor Of Transceiver Attributes: non-creatable, non-modifiable
sfp-part-number		string optional	Part Number Of Transceiver Attributes: non-creatable, non-modifiable
sfp-rev		string optional	Revision Of Transceiver Attributes: non-creatable, non-modifiable
sfp-rx-power		string optional	Received Optical Power Attributes: non-creatable, non-modifiable
sfp-serial-number		string optional	Serial Number Of Transceiver Attributes: non-creatable, non-modifiable
sfp-sff8472-compliance	**[0..2^32-1]**	integer optional	SFF-8472 Compliance Attributes: non-creatable, non-modifiable
sfp-tx-power		string optional	SFP Transmitted Optical Power Attributes: non-creatable, non-modifiable
sfp-vendor-name		string optional	Vendor Name Of Transceiver Attributes: non-creatable, non-modifiable
sfp-vendor-oui		string optional	Vendor OUI Of Transceiver Attributes: non-creatable, non-modifiable
sfp-wavelength	**[0..65535]**	integer optional	Wavelength In Nanometers Attributes: non-creatable, non-modifiable
		string	Link speed Attributes: non-creatable, non-

speed		optional	modifiable
state		string optional	Operational Status Attributes: non-creatable, non-modifiable
status-admin		fcp-adapter-state optional	Administrative Status Attributes: non-creatable, modifiable Possible values: • "down" , • "up"
status-extended		string optional	Extended Status Attributes: non-creatable, non-modifiable
switch-port		string optional	Switch Port Attributes: non-creatable, non-modifiable

Element definition: **fcp-interface-info**

[top]

Information about a single FCP Logical Interface (LIF). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-node		string optional	Node currently hosting the LIF. Attributes: non-creatable, non-modifiable
current-port		string optional	FC Adapter currently hosting the LIF. Attributes: non-creatable, non-modifiable
interface-name		string optional	Name of the LIF. Attributes: key, non-creatable, non-modifiable
node-name		string optional	World Wide Node Name (WWNN) of the LIF. All LIFs in a Vserver have the same WWNN as the Vserver's FCP service. Attributes: non-creatable, non-modifiable
port-address		string optional	Host port address of LIF. Attributes: non-creatable, non-modifiable
port-name		string optional	World Wide Port Name (WWPN) of the LIF. Attributes: non-creatable, non-modifiable
relative-port-id		integer optional	The SCSI Relative Target Port Identifier of the LIF. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver hosting the LIF. Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-nameserver-info**

[top]

FCP name server entry for the adapter When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
fabric-port-wwn		string optional	Fabric world wide port name (WWPN) of the lif Attributes: non-creatable, non-modifiable
fc4-type		string optional	Registered FC4 Type Attributes: non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
node-wwn		string optional	World Wide Node Name (WWNN) of the lif Attributes: non-creatable, non-modifiable
port-id	**[0..2^32-1]**	integer optional	Assigned port identifier of the lif Attributes: key, non-creatable, non-modifiable
port-type		string optional	Port type of the lif Attributes: non-creatable, non-modifiable
port-wwn		string optional	World Wide Port Name (WWPN) of the lif Attributes: non-creatable, non-modifiable
service-class		string optional	Registered class of services as defined in the FC-FS standard Attributes: non-creatable, non-modifiable
switch-port		string optional	Name of switch port connected to target array Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver hosting the FCP LIF Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-ping-igroup-status-info**

[top]

FCP Ping result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ext-status		string optional	Extended Status Attributes: non-creatable, non-modifiable
igroup		string optional	Igroup Name Attributes: key, non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable

node		string optional	Node Attributes: non-creatable, non-modifiable
portset		string optional	Portset Attributes: non-creatable, non-modifiable
status		string optional	Ping Status Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable
wwpn		string optional	FCP initiator WWPN Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-ping-status-info**

[top]

Connectivity check between FCP initiator and FCP LIF When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ext-status		string optional	Extended Status Attributes: non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
node		string optional	Node Attributes: non-creatable, non-modifiable
status		string optional	Ping Status Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable
wwpn		string optional	Remote WWPN Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-port-name-info**

[top]

Information for one valid local port name.

Name	Range	Type	Description
fcp-adapter		string optional	Only if this WWPN is being used by a Fibre Channel interface, the name of the interface is returned. In Data ONTAP 7-Mode, the name of a local adapter. In Data ONTAP Cluster-Mode, the name of an FCP data LIF.
is-used		boolean	This indicates whether this WWPN is being used by a Fibre Channel target interface.
port-			A Fibre Channel WWPN in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a

name		string	hexadecimal digit.
vserver		string	Vserver containing this port name

Element definition: **fcp-service-info**

[top]

FCP target service configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-available		boolean optional	true if the FCP Service is running, false otherwise. Attributes: non-creatable, non-modifiable
node-name		string optional	The world-wide node name (WWNN) of the FCP target in the Vserver. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver hosting the FCP service. Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-tdz-info**

[top]

FCP tdz entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
peer-zone-name		string optional	Peer Zone Name Attributes: key, non-creatable, non-modifiable
principal-wwn		string optional	Principal Member WWN Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable
zone-wwpns		string optional	Zone Members Attributes: non-creatable, non-modifiable

Element definition: **fcp-topology-info**

[top]

FCP topology interconnect When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
domain-id	**[0..2^32-1]**	integer optional	Domain Identifier Attributes: key, non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
logical-name		string optional	Logical Name Attributes: non-creatable, non-modifiable
port-count	**[0..2^32-1]**	integer optional	Port Count Attributes: non-creatable, non-modifiable
release		string optional	Release Attributes: non-creatable, non-modifiable
vendor		string optional	Vendor Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable
wwn		string optional	World Wide Name Attributes: non-creatable, non-modifiable

Element definition: **fcp-topology-port-info**

[top]

FCP topology interconnect elements for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter		string optional	Adapter name Attributes: key, non-creatable, non-modifiable
domain-id	**[0..2^32-1]**	integer optional	Domain Id Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

port-attached-id		string optional	Attached Port Id Attributes: non-creatable, non-modifiable
port-attached-visible		string optional	Visible Attributes: non-creatable, non-modifiable
port-attached-wwpn		string optional	Attached Port WWPN Attributes: non-creatable, non-modifiable
port-count	**[0..2^32-1]**	integer optional	Port Count Attributes: non-creatable, non-modifiable
port-slot		string optional	Port Slot Attributes: non-creatable, non-modifiable
port-state		fcpportstate optional	Port State Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline" , • "testing" , • "fault"
port-type		fcporttype optional	Port Type Attributes: non-creatable, non-modifiable Possible values: • "none" , • "n_port" , • "nl_port" , • "fnl_port" , • "nx_port" , • "f_port" , • "fl_port" , • "e_port" , • "b_port" , • "tnp_port" , • "tf_port" , • "nv_port" , • "fv_port" , • "sd_port" , • "te_port" , • "tl_port"
port-wwpn		string optional	Port WWPN Attributes: key, non-creatable, non-modifiable
switch-name		string optional	Switch Name Attributes: non-creatable, non-modifiable
switch-release		string optional	Switch Release Attributes: non-creatable, non-modifiable
switch-vendor		string optional	Switch Vendor Attributes: non-creatable, non-modifiable
switch-wwn		string optional	Switch WWN Attributes: non-creatable, non-modifiable

Element definition: **fcp-zone-info**

[top]

FCP active zone set entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter		string optional	Adapter name Attributes: key, non-creatable, non-modifiable
contents		string optional	Member Contents Attributes: non-creatable, non-modifiable
domain-id	**[0..2^32-1]**	integer optional	Member Domain Id Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
port	**[0..2^32-1]**	integer optional	Member Port Attributes: non-creatable, non-modifiable
port-id	**[0..2^32-1]**	integer optional	Member Port Id Attributes: non-creatable, non-modifiable
type	**[0..2^32-1]**	integer optional	Member Type Attributes: non-creatable, non-modifiable
type-name		string optional	Member Type Name Attributes: non-creatable, non-modifiable
unique	**[0..2^32-1]**	integer optional	(DEPRECATED)-This field is deprecated as of ONTAP 9.11, but remains in the API for backward compatibility. It is an incrementing number which is not tied to the zone and whose value can vary with each call. The caller is warned to not rely on this value to identify a zone. Attributes: key, non-creatable, non-modifiable
wwn		string optional	Member WWN Attributes: non-creatable, non-modifiable
zone-count	**[0..2^32-1]**	integer optional	Zone Count Attributes: non-creatable, non-modifiable
zone-member-count	**[0..2^32-1]**	integer optional	Zone Member Count Attributes: non-creatable, non-modifiable
zone-name		string optional	Zone Name Attributes: key, non-creatable, non-modifiable
zoneset-name		string optional	Zoneset Name Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-adapter-data-protocol**

[top]

fcp|fc-nvme Possible values:

- "fcp" ,
- "fc_nvme"

[none]

Element definition: **fcp-adapter-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

Element definition: **fcp-adapter-topology-switch-port-info**

[top]

Information about the FC switch port.

Name	Range	Type	Description
fcp-adapter-topology-attached-ports		fcp-adapter-topology-attached-port-info[]	List of devices attached to this port.
port-name		string	World wide port name (WWPN) of the port. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
port-number		integer	Port index number. Range: [0..2^32-1]
port-state		string	Port state. Possible values: "online", "offline", "testing", "fault", and "unknown".
port-type		string	Port type. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none".

Element definition: **fcp-adapter-zone-member-info**

[top]

Information about a zone member.

Name	Range	Type	Description
domain-id		integer optional	Domain identifier of the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1]
fabric-port-name		string optional	World wide port name (WWPN) of the fabric port. This element is returned if the zone-member-type is "fabric-port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
node-name		string optional	World wide node name (WWNN) of the N-port. This element is returned if the zone-member-type is "node-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
port		integer optional	Port number on the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1]
port-id		integer optional	Assigned port identifier. This element is returned if the zone-member-type is "port-id". Range: [0..2^24-1]

port-name		string optional	World wide port name (WWPN) of the N-port. This element is returned if the zone-member-type is "port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
zone-member-type		string	The type of zone member. Possible values are: "port-name", "domain-id-port", "port-id", "node-name", "fabric-port-name", and "unknown".
zone-member-value		integer optional	Uninterpreted value. This element is returned if the zone-member-type is "unknown". Range: [0..2^32-1]

Element definition: **fcp-connected-initiator-info**

[top]

Information about an initiator connected to an FC adapter.

Name	Range	Type	Description
initiator-group-list		initiator-group-list-info[] optional	List of initiator groups this initiator belongs to.
node-name		string	World Wide Node Name (WWNN) of initiator.
port-address	**[0..2^32-1]**	integer	Fibre Channel host address it is connected to.
port-name		string	World Wide Port Name (WWPN) of the initiator.
portname-alias-list		portname-alias-name[] optional	List of aliases for the WWPN.

Element definition: **fcp-connection**

[top]

loop|ptp Possible values:

- "loop" ,
- "ptp"

[none]

Element definition: **fcpportstate**

[top]

Unknown|Online|Offline|Testing|Fault Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "testing" ,
- "fault"

[none]

Element definition: **fcpporttype** [top]

None|N-Port|NL-Port|FNL-Port|NX-Port|F-Port|FL-Port|E-Port|B-Port|TNP-Port|TF-Port|NV-Port|FV-Port|SD-Port|TE-Port|TL-Port Possible values:

- "none" ,
- "n_port" ,
- "nl_port" ,
- "fnl_port" ,
- "nx_port" ,
- "f_port" ,
- "fl_port" ,
- "e_port" ,
- "b_port" ,
- "tnp_port" ,
- "tf_port" ,
- "nv_port" ,
- "fv_port" ,
- "sd_port" ,
- "te_port" ,
- "tl_port"

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **fcp-adapter-topology-attached-port-info** [top]

Information about the attached device.

Name	Range	Type	Description
is-		boolean	Visibility of this device through this adapter from a zoning perspective.

visible			
port-id		integer	Assigned port identifier of the attached device. A value of 0 indicates no value has been assigned. Range: [0..2^24-1]
port-name		string	World wide port name (WWPN) of the attached device. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.

Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

Name	Range	Type	Description
initiator-group-name		string	Name of initiator group.

Element definition: **portname-alias-name**

[top]

Aliases for this WWPN

Name	Range	Type	Description
portname-alias		string	Alias for the WWPN

APIs in Category: **fcport**

fcport-get-link-state
fcport-reset-dev
fcport-send-lip
fcport-set-offline
fcport-set-online

fcport-get-link-state

[top]

Get the link state of a specific adapter on this system.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Output Name	Range	Type	Description
adapter-link-state		link-state-info[]	adapter link state info
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EINTERNALERROR	

fcport-reset-dev

[top]

When invoked the device will be reset. The device will be temporarily suspended while it is reset, after which it will resume processing device operations. This command should be used with care as it can have adverse effects, for instance pending commands to the device will be aborted when issuing this command.

Input Name	Range	Type	Description
device-id		string	The device id is presented as a slot number followed by the port letter concatenated with the device-id. These two parts are separated by a period. For example 6b.5 If the device-id is omitted EAPIMISSINGARGUMENT will

			be returned. If the device-id is invalid EINVALIDINPUTERROR will be returned.

Errno	Description
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

fcport-send-lip

[top]

This will initiate a loop initialization on the specified fibrechannel loop port. The loop will be temporarily suspended while it is initialized, after which it will resume processing loop operations. This command should be used with care, because it can have adverse effects, like pending commands will be aborted when issuing this command.

Input Name	Range	Type	Description
loop-id		string	The loop id is presented as a slot number and port letter concatenated (for example 6a). If the loop-id is omitted EAPIMISSINGARGUMENT will be returned. If the loop-id is invalid EINVALIDINPUTERROR will be returned.

Errno	Description
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
ELOOPUNAVAILABLE	

fcport-set-offline

[top]

Offline a specific adapter on this system. This API should be used with care, as it can have adverse side effects, which you lose access to all devices of that port. The operation of offlining the already offlined adapter will be considered success.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EINTERNALERROR	

fcport-set-online

[top]

Online a specific adapter on this system. The operation of onlining the already onlined adapter will be considered success.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EINTERNALERROR	

Element definition: **link-state-info**

[top]

list link-state info of a specific adapter channel

Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name.
fc-port-info		fc-ports optional	fiber channel port information. Present only when link-state field value is "up".
link-state		string	Possible values: "initing", "down", "up", "offline-physical", "offline-logical", or "zombified", which the adapter has stopped sending I/O and is ignoring link events. This state may occur when shelf firmware is being updated.
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.

Element definition: **fc-ports**

[top]

Information about the ports belonging to the fiber channel adapter

Name	Range	Type	Description
port-number		string optional	This represents the physical port number of the FC port. Field is not present when port-type is "l-port"
port-type		string	Type of port. Possible values: "l-port", loop port, node port used to connect a node to a Fibre Channel loop. "nl-port", network+loop port, node port which connects to both loops and switches. "n-port", network port, node port used to connect a node to a Fibre Channel switch.
switch-name		string optional	This is the switch name, if any, connected to the FC port. Field is not present when port-type is "l-port"
switch-wwn		string optional	This is the world wide name of the switch, if any, connected to the FC port. Field is not present when port-type is "l-port"

APIs in Category: **feature**

feature-status-list-info
feature-usage-get-iter
feature-usage-summary-get-iter

This set of APIs allow management of 7-Mode and Cluster-Mode features for Data ONTAP 8.2 and later. The feature status are set internally based on the enablement, entitlement, and other configuration restrictions of the feature.

feature-status-list-info

[top]

Returns status information for managed features.

Output Name	Range	Type	Description
managed-feature-status-list		managed-feature-status-info[]	An array, one entry per each managed feature.

Errno	Description
EINTERNALERROR	

feature-usage-get-iter

[top]

Returns feature usage information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

Input Name	Range	Type	Description
desired-attributes		usage-state-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		usage-state-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		usage-state-info[] optional	The list of attributes of feature objects.
next-tag		string optional	Tag for the next call. Not present when there are no more feature objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

feature-usage-summary-get-iter

[top]

Returns feature usage summary information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

Input Name	Range	Type	Description
desired-attributes		usage-summary-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		usage-summary-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		usage-summary-info[] optional	The list of attributes of feature objects.
next-tag		string optional	Tag for the next call. Not present when there are no more feature objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **managed-feature-status-info**

[top]

Status information about a managed feature. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
feature-name		managed-feature optional	Managed feature name. Attributes: key, non-creatable, non-modifiable
notes		string optional	Additional information about the managed feature status. Attributes: non-creatable, non-modifiable
status		managed-feature-status optional	Status of a managed feature. Attributes: non-creatable, non-modifiable

Element definition: **usage-state-info**

[top]

Information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
date-collected		datetime optional	The time data was collected. Attributes: non-creatable, non-modifiable
feature-message		string optional	Additional feature reported message. Attributes: non-creatable, non-modifiable
feature-name		managed-feature optional	Name of the feature. Attributes: key, non-creatable, non-modifiable Possible values: • "cifs" , • "nfs" , • "iscsi" , • "fcp" , • "dedupe" , • "flexclone" , • "compression" , • "snaprestore" , • "snaplock" , • "snaplock_enterprise" , • "snapvault_primary" , • "snapvault_secondary" , • "snapmirror" , • "syncmirror" , • "flexcache" , • "ndmp" , • "multistore" , • "cdmi" , • "snapdrive_windows" , • "snapmanager_exchange" , • "snapmanager_sql" , • "snapmanager_sharepoint" ,

			• "snapmanager_hyperv" , • "snapdrive_unix" , • "snapmanager_oracle" , • "snapmanager_sap" , • "v_storageattach" , • "mt_ek_mgmt" , • "s3"
node		node-name optional	Name of the controller node. Attributes: key, non-creatable, non-modifiable
owner		string optional	Name of the controller node. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial number of the controller node. Attributes: key, non-creatable, non-modifiable
usage-status		feature-usage-state optional	The usage status information. Attributes: non-creatable, non-modifiable Possible values: • "not_used" - Not Used, • "configured" - Configured, • "in_use" - In Use, • "not_available" - Not Available
week-number		seqnum optional	The week of data collection. Week number one is the oldest week of collection. Attributes: key, non-creatable, non-modifiable

Element definition: **usage-summary-info**

[top]

Summary information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			Name of the feature. Attributes: key, non-creatable, non-modifiable Possible values: • "cifs" , • "nfs" , • "iscsi" , • "fcp" , • "dedupe" , • "flexclone" , • "compression" , • "snaprestore" , • "snaplock" , • "snaplock_enterprise" , • "snapvault_primary" , • "snapvault_secondary" ,

feature-name		managed-feature optional	• "snapmirror" , • "syncmirror" , • "flexcache" , • "ndmp" , • "multistore" , • "cdmi" , • "snapdrive_windows" , • "snapmanager_exchange" , • "snapmanager_sql" , • "snapmanager_sharepoint" , • "snapmanager_hyperv" , • "snapdrive_unix" , • "snapmanager_oracle" , • "snapmanager_sap" , • "v_storageattach" , • "mt_ek_mgmt" , • "s3"
last-used-time		datetime optional	The time when the feature was last recorded to be in-use. Attributes: non-creatable, non-modifiable
owner		string optional	Name of the controller node. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial number of the controller node. Attributes: key, non-creatable, non-modifiable
weeks-configured	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to be configured. Attributes: non-creatable, non-modifiable
weeks-in-use	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to be in-use. Attributes: non-creatable, non-modifiable
weeks-not-available	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to not have usage data available. Attributes: non-creatable, non-modifiable
weeks-not-used	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to be not used. Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **feature-usage-state**

[top]

not-used|configured|in-use|not-available Possible values:

- "not_used" - Not Used,
- "configured" - Configured,
- "in_use" - In Use,
- "not_available" - Not Available

[none]

Element definition: **managed-feature**

[top]

Managed Feature Possible values:

- "cifs" ,
- "nfs" ,
- "iscsi" ,
- "fcp" ,
- "dedupe" ,
- "flexclone" ,
- "compression" ,
- "snaprestore" ,
- "snaplock" ,
- "snaplock_enterprise" ,
- "snapvault_primary" ,
- "snapvault_secondary" ,
- "snapmirror" ,
- "syncmirror" ,
- "flexcache" ,
- "ndmp" ,
- "multistore" ,
- "cdmi" ,
- "snapdrive_windows" ,
- "snapmanager_exchange" ,
- "snapmanager_sql" ,
- "snapmanager_sharepoint" ,
- "snapmanager_hyperv" ,
- "snapdrive_unix" ,
- "snapmanager_oracle" ,
- "snapmanager_sap" ,
- "v_storageattach" ,
- "mt_ek_mgmt" ,
- "s3"

[none]

Element definition: **managed-feature-status**

[top]

Represents the status of a managed feature. Possible values:

- "on" - feature is entitled and turned on,
- "available" - feature is entitled and available to be turned on. Its current on/off status is unknown,
- "on_not_configurable" - feature is no longer entitled but it was turned on before and remains to be on. Feature is not configurable at the moment,
- "off" - feature is entitled but turned off,
- "not_available" - feature is not entitled, licensing infrastructure is unavailable, or other configuration check prevents feature use. The field notes can provide additional information.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

APIs in Category: **file**

file-assign-qos
file-compact-data
file-create-directory
file-create-symlink
file-delete-directory
file-delete-file
file-fingerprint-abort
file-fingerprint-dump
file-fingerprint-get-iter
file-fingerprint-start
file-get-file-info
file-get-space-reservation-info
file-hole-range-query-iter
file-inode-info
file-inode-info-get-iter
file-list-directory-iter
file-list-directory-iter-end
file-list-directory-iter-next
file-list-directory-iter-start
file-punch-hole-iter
file-read-file
file-read-symlink
file-rename-file
file-set-space-reservation-info
file-truncate-file
file-usage-get
file-usage-result-get
file-usage-start
file-write-file

The path and filename values used in these APIs are "NFS" filenames by default. If a file is created with a name that is illegal in CIFS, CIFS access to the file will need to use the file's 8.3 name. Similarly, if two filenames created by these APIs differ only by case (e.g. "a" and "A"), CIFS access will see the 8.3 name for the second one created.

To access files or directories with Unicode file names, the UTF-8 equivalent of the Unicode path can be used. If a file contains Unicode-format data, the filer returns all the data in the file including the identifier in the first two bytes of the file which indicates the file contains Unicode data (0xFEFF).

A file may optionally contain multiple distinct streams of data. A stream is an on disk structure containing a sequence of bytes, analogous to a file. A stream associated with a file is identified by a name, and data may be read or written to a file or stream. A stream can be thought of as a hidden file associated with a base file, and is visible in the name space of the base file. Streams are typically used to store metadata associated with the base file

file-assign-qos

[top]

Manage the association of QoS policy group to a specified file. QoS Policy groups define measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated. In Data ONTAP 8.2 hierarchical QoS is not supported i.e. QoS policy groups cannot be assigned to multiple objects in the file's storage hierarchy - such as the parent LUN, volume or Vserver.

Input Name	Range	Type	Description
			The caching policy that is associated with this file. This policy is used to make caching decisions for this file. If a caching policy is not assigned to this file, the system uses the caching policy that is assigned to the containing volume. If a caching policy is not assigned to the containing volume, the system uses the caching policy that is assigned to the containing Vserver. If a caching policy is not assigned to the containing

caching-policy		string optional	Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
file		string	Complete file path of the file without a trailing slash.
qos-adaptive-policy-group-name		string optional	The QoS adaptive policy group name that is to be associated with this file in order to enforce service level objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS adaptive policy group.
qos-policy-group-name		string optional	The QoS Policy Group name that is to be associated with this file in order to enforce Service Level Objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS policy group.
volume		volume-name	Name of the Volume in which the file resides.
vserver		vserver-name	Name of the Vserver in which the volume that hosts the file resides.

Errno	Description
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_FILE_IS_LUN	
E_QOS_FILE_ACCESS_ERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

file-compact-data

[top]

compact data

Input Name	Range	Type	Description
file		string	File Path
node		filer-id	Node

snapshot		snapshot-id	Snapshot Copy Name
volume		volume-name	Volume Name
vserver		vserver-name	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-create-directory

[top]

Create a directory.

Input Name	Range	Type	Description
path		string	Path of the directory to be created. The value is expected to begin with /vol/.
perm		string	Permission of the directory to be created. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. Note: Prior to Data ONTAP 7.3.1 this value was treated as a base-10 number.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_EEXIST	
EONTAPI_ENOENT	
EONTAPI_ENOSPC	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVER_OP_NOT_ALLOWED	

file-create-symlink

[top]

Create a symlink.

Input Name	Range	Type	Description
path		string	Path of the symlink file to create. The value is expected to begin with /vol/.
symlink		string	Value of the symlink, which is the destination path contained in the symlink. This ZAPI does not check whether the destination path is accessible. This parameter may contain any arbitrary absolute or relative path.

Errno	Description
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	
EONTAPI_EEXIST	
EONTAPI_ENOENT	
EONTAPI_ENAMETOOLONG	
EONTAPI_EPERM	
EONTAPI_ELOOP	
EONTAPI_ENOSPC	
EONTAPI_ENOTDIR	

file-delete-directory

[top]

Delete a directory.

Input Name	Range	Type	Description
path		string	Path of the directory to delete. The value is expected to begin with /vol/. The directory must be empty in order for this API to succeed.

Errno	Description
EONTAPI_ENOENT	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	

file-delete-file

[top]

Delete a file.

Input Name	Range	Type	Description
path		string	path of the file or symlink to delete. the value is expected to begin with /vol/.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	

EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	

file-fingerprint-abort

[top]

The file-fingerprint-abort API can be used to abort an ongoing fingerprint operation. This api only aborts the fingerprint operations that have been started and have not finished. You identify the session-id with this API, and it aborts the fingerprint operation that is associated with that particular session-id. You must specify session-id when using file-fingerprint-abort.

Input Name	Range	Type	Description
session-id	**[0..2^32-1]**	integer	session-id of the fingerprint operation that needs to be stopped.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-fingerprint-dump

[top]

The file-fingerprint-dump API returns the fingerprint information for a file. The session-id must be specified when using the file-fingerprint-dump API.This is the session-id of the fingerprint operation that is returned when a fingerprint operation is started using the file-fingerprint-start API. If the fingerprint operation is complete, it will also show the complete fingerprint information for the file.

Input Name	Range	Type	Description
desired-attributes		fingerprint-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
session-id	**[0..2^32-1]**	integer	An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed.

Output Name	Range	Type	Description
attributes		fingerprint-info	The attributes of the file.

Errno	Description

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-fingerprint-get-iter

[top]

The file-fingerprint-get-iter API returns information for one or several fingerprint operations. We need to specify either session-id or vserver-name and volume-name with the file-fingerprint-get-iter API. When queried with session-id, the file-fingerprint-get-iter API returns the progress of the fingerprint operation with the specified session-id. When queried with vserver-name and volume-name, the file-fingerprint-get-iter API returns the progress of all the fingerprint operations running on that particular volume.

Input Name	Range	Type	Description
desired-attributes		fingerprint-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fingerprint-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fingerprint-status-info[] optional	The list of attributes of file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-fingerprint-start

[top]

The file-fingerprint-start API is used to start the fingerprint computation a file. The fingerprint computation is started on the file, and a session-id is returned. This session-id is an unique identifier for the fingerprint operation. To start the fingerprint computation on a file, the following parameters should be compulsarily specified:

- vserver : Name of the vserver which owns the volume.
- file : Complete file path of the file on which the fingerprint needs to be computed. This file path is of the form vol//

Input Name	Range	Type	Description
algorithm		string optional	The digest algorithm which will be used for the fingerprint computation. Fingerprint can be computed using one of the following digest algorithms : • md5 • sha-256 If no algorithm is specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm.
file		string	Full path of the file on which fingerprint needs to be calculated. The value begins with /vol/.
scope		string optional	The file scope which will be used for the fingerprint computation. FIngerprint can be computed over one of the following : • data • metadata • both data and metadata If no scope is specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata.

Output Name	Range	Type	Description
result-session-id		integer optional	An unique identifier for the fingerprint operation. The result-session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-get-file-info

[top]

Obtains the file information or properties.

Input Name	Range	Type	Description
path		string	Pathname of the directory to list. The value is expected to begin with /vol/.

Output Name	Range	Type	Description
file-info		file-info	File information from the stat() function.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EINTERNALERROR	
EVOL_NOT_MOUNTED	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled
Yes

file-get-space-reservation-info

[top]

Queries the space reservation settings for the named file.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
path		string	File to be queried.
volume-id		string	The identifier of the volume in which the named file exists. There are two legal choices for a volume identifier, either a DSID or a UUID. DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'. Here is an example of an actual DSID: 0x0000000000000401 UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529

Output Name	Range	Type	Description
is-fill-enabled		boolean	Whether or not the file is set with fill.
is-overwrite-enabled		boolean	Whether or not the file is set with overwrite.

Errno	Description
EOPNOTSUPPORTED	
EFILENOTFOUND	
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

file-hole-range-query-iter

[top]

Return ranges of holes in a file

Input Name	Range	Type	Description
length		integer	The number of bytes to scan. If this is zero scan until end of file. If the length is not an integral multiple of the block size it will be rounded up to the end of the block. Range : [0..2^63-1]
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 64
offset		integer	The starting offset of the file from where the scan for holes should begin. If the offset is not an integral multiple of the block size it will be rounded down to the start of the block. Range : [0..2^63-1]
path		string	The full path of the file for which hole information is to be queried. Format must be of the following: /vol/my_vol/my_file
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		hole-range-info[] optional	The list of attributes of file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EONTAPI_ESTALE	
EONTAPI_ERANGE	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
EVSERVER_OP_NOT_ALLOWED	

[top]

file-inode-info

Get parent information for a given inode.

This API corresponds to the "inodepath" diagnostic-level CLI in ONTAP-Classic, and has the same defaults.

The input is:

- Required, a volume identifier. A volume may be specified by name, fsid, or (in some ONTAP products) UUID/DSID.
- Required, an inode number.
- Optional, a snapshot identifier to get information from a snapshot rather than the active volume. A snapshot may be specified by name or by id.
- Optional, various reporting flags (see below) to enable or disable optional output information.

The output is:

- All volume identifiers, the one used as input plus the values of the others.
- Optionally, all snapshot identifiers; the one used as input plus the value of the other.
- The number of parents for the inode.
- Optionally, one or more volume relative pathnames to the inode
- Optionally, one or more leaf names for the inode.
- Optionally, one or more of the actual parent info stored for the inode, in the form of the parent dir inode number and the parent directory cookie (fbn and offset into the fbn) used to find the dir entry that refers to the inode in the parent directory (ie. the info used to get the leaf name).

This API is only supported for flexible volumes and FlexGroup constituents.

Input Name	Range	Type	Description
encoded		boolean optional	Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false.
generation		integer optional	The generation number for this inode. Range: [1..2^32-1]
inode-number		integer	The inode number for which information is desired.
logical-snap-id		integer optional	All snapshots are associated with an internal index. "logical-snap-id" is the client-visible index that maps the the underlying internal index. Range: [1..255].
report-cifs-paths		boolean optional	Flag for indicating if the paths returned should be cifs-paths
report-leaf-name		boolean optional	If set to true, report the leaf name of the given inode. The leaf name is equivalent to the final component of a full pathname. For example, the leaf name of: /vol/vol0/foo/bar/baz is: baz By default, the inode's leaf name is not shown.
report-no-pathname		boolean optional	If set to true, do not report on the given inode's full pathname. By default, the inode's full pathname is reported.

report-other-parents		boolean optional	If set to true, report the requested information for all of the parents for the given inode. By default, only information about one of the given inode's parents is reported.
report-parent-data		boolean optional	If set to true, report various other pieces of information about the given inode. This information includes the inode of the parent directory containing the given inode, along with the directory cookie by which the given inode is known in that parent directory inode. By default, this other information is not reported for the given inode.
snap-id		integer optional	The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume. Valid snapshot ids have a range of 0 to (WAFL_SNAP_CNT - 1) (currently 255). A value of 0 will refer to the active file system of the given volume. This refers to the physical snapshot identifier.
snap-name		string optional	A snapshot name within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume.
volume-dsid		string optional	The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified. DSIDs are formatted as 18-character strings composed of 16 hex characters prefixed with '0x'. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG).
volume-fsid		integer optional	The FSID (file system identifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified. An FSID may have any uint32_t value.
volume-name		string optional	The name of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified.
volume-uuid		string optional	The UUID (Universally Unique IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. An example UUID is 532ad684-c8ec-11d9-945f-00065b8c8a1e. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG).

Output Name	Range	Type	Description
inode-number		integer	The number identifying the inode.
inode-paths		inode-parent-info[]	List of requested paths and parent information for the given inode.
logical-snap-id		integer optional	Logical snapshot index. This index maps to the above internal index. Logical index allows users to choose the same snapshot index across all members of a striped volume. This index is also useful for logical volume replication. A logical snapshot index of 0 implies that the

			snapshot is is not client-visible i.e. this is a un-coordinated snapshot. Range: [0..255].
number-of-parents		integer	The number of parents for the inode. For a file, this is the number of links to the file.
snapshot-id		integer optional	The snapshot id, if requested info is from a snapshot. This is the physical snapshot identifier.
snapshot-name		string optional	The name of the snapshot, if requested info is from a snapshot.
volume-dsid		string optional	The volume DSID.
volume-fsid		integer	The volume FSID.
volume-name		string	The volume name.
volume-uuid		string	The volume UUID.

Errno	Description
EINVALIDINPUTERROR	
EINODENUMBERTOOSMALL	
EINODENUMBERTOOLARGE	
EVOLUMEDOESNOTEXIST	
ESNAPSHOTDOESNOTEXIST	
EINVALIDINODE	
EINELIGIBLEINODE	
EPARENTINFONOTLOADED	
EI2PNOTENABLED	
EINTERNALERROR	
EVOLUMEOFFLINE	
EWRONGSTRIPE	
EVOLUMEQUIESCED	
EVOLUMEBUSY	

Vfiler-enabled
Yes

file-inode-info-get-iter

[top]

Get information about all the files associated with an inode in a volume.

Input Name	Range	Type	Description
desired-attributes		inode-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		inode-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		inode-info[] optional	The list of attributes of file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINODENUMBERTOOSMALL	
EINODENUMBERTOOLARGE	
EVOLUMEDOESNOTEXIST	
ESNAPSHOTDOESNOTEXIST	
EINVALIDINODE	
EPARENTINFONOTLOADED	
EI2PNOTENABLED	
EVOLUMEOFFLINE	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
ESNAPSHOTINVALIDID	
ESNAPSHOTDOESNOTEXIST	
EAPIMISSINGARGUMENT	
EINVALIDDSID	
EVOLUMENAMEINVALID	

file-list-directory-iter

[top]

list of files in a given directory.

Input Name	Range	Type	Description
desired-attributes		file-info[] optional	Specify which attributes to return. If not set return all of them.
max-records	**[1..2^32-1]**	integer optional	Maximum number of directory entries to retrieve.
path		string	Pathname of the directory to list. The value is expected to begin with /vol/.
query		file-info[] optional	A query that specifies which objects to return. The query can specify any attributes in the file object. All file objects matching this query up to 'max-records' will be returned.
tag		string optional	Should be empty for first call. For subsequent calls should be the value returned by next-tag below.

Output Name	Range	Type	Description
attributes-list		file-info[] optional	Array with information for each file in the named directory.
next-tag		string optional	Tag to be used in the next call to continue iteration. Will not be returned if there are no more entries.
num-records	**[0..2^32-1]**	integer	This tells you how many records are being returned from this particular call to file-list-directory-iter-next. When this value is 0, you have retrieved everything.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
E_DIRECTORY_CHANGED	
EINTERNALERROR	
EVOL_NOT_MOUNTED	
EVSERVER_OP_NOT_ALLOWED	

file-list-directory-iter-end

[top]

Terminate a directory iteration.

Input Name	Range	Type	Description
tag		string	Tag from a previous file-list-directory-iter-start.

Errno	Description
EONTAPI_ENOENT	

Vfiler-enabled
Yes

file-list-directory-iter-next

[top]

Obtain a list of files in a given directory.

Input Name	Range	Type	Description
maximum		integer	Maximum number of directory entries to retrieve.
tag		string	Tag from a previous file-list-directory-iter-start.

Output Name	Range	Type	Description
files		file-info[]	Array with information for each file in the named directory.
			This tells you how many records are being returned from this particular

records		integer	call to file-list-directory-iter-next. When this value is 0, you have retrieved everything.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	

Vfiler-enabled
Yes

file-list-directory-iter-start

[top]

Start in iteration through the list of files in a given directory.

Input Name	Range	Type	Description
encoded		boolean optional	Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false.
path		string	Pathname of the directory to list. The value is expected to begin with /vol/.

Output Name	Range	Type	Description
records		integer	Number of items that have been saved for future retrieval with file-list-directory-iter-next.
tag		string	Tag to be used in subsequent iterations.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EAPIERROR	
EONTAPI_EINVAL	

Vfiler-enabled
Yes

file-punch-hole-iter

[top]

Punch hole in the file. Hole punching involves reclaiming of blocks in a file by unallocating them and then direct or indirect blocks can be made to point to 0.

Input Name	Range	Type	Description
attributes-list		hole-range-info[]	This is the array containing the ranges that need to be hole punched.
path		string	Path of the file. Format must be of the following: /vol/my_vol/path-to-file
tag		string optional	Do not set on first iteration. Use value of next-tag on subsequent iterations.

Output Name	Range	Type	Description
next-tag		string optional	Returned if not all ranges have been punched

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EACCES	
EONTAPI_ESTALE	
EONTAPI_EPERM	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOL_NOT_MOUNTED	
EONTAPI_ENOSPC	

file-read-file

[top]

Read data from a named file. API will fail if length exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

Input Name	Range	Type	Description
length	**[0..1048576]**	integer	Number of bytes to read from the file.
offset	**[0..2^63-1]**	integer	Offset into file to start reading from. If the value of offset is beyond the eof, the API will fail with EAPIERROR.
path		string	Name of the file to read. For example: "/vol/<volume>/<file>".
stream-name		string optional	A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be read from the named stream associated with file specified by <path> Default is empty stream name, in which case the data is read from file specified by <path> This field is available in Data ONTAP 8.2 or later.

Output Name	Range	Type	Description
data		string	Data read from the file. The format of the data is ASCII hex characters, two characters representing one byte from the file. (This format allows the representation of 0-valued bytes.)
length	**[0..1048576]**	integer	Number of bytes actually read from the file. If this value is 0, then you have attempted to read at or past the end of the file.

Errno	Description
EONTAPI_EACCES	
EONTAPI_ENOENT	
EONTAPI_EFTYPE	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled
Yes

file-read-symlink

[top]

Read the contents of a symlink.

Input Name	Range	Type	Description
path		string	Path of the symlink file to read. The value is expected to begin with /vol/.

Output Name	Range	Type	Description
symlink		string	Value of the symlink, which is the destination path contained in the symlink.

Errno	Description
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	
EONTAPI_ENOENT	
EONTAPI_ENAMETOOLONG	
ENOTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_ELOOP	
EONTAPI_ENOTDIR	

file-rename-file

[top]

Rename a file or directory. Note that this API cannot be used to rename to a different volume.

Input Name	Range	Type	Description
from-path		string	Original path of the file. The value must begin with /vol/.
to-path		string	Final path of the file. The value must begin with /vol/. All path components except the final file name must already exist.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EEXIST	
EONTAPI_EXDEV	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVSERVER_OP_NOT_ALLOWED	

file-set-space-reservation-info

[top]

Sets the space reservation settings for the named file. is-overwrite-enabled and is-fill-enabled both must be the same value.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
is-fill-enabled		boolean optional	Whether or not to set the file with fill.
is-overwrite-enabled		boolean optional	Whether or not to set the file with overwrite.
path		string	File to be queried.
volume-id		string	The identifier of the volume in which the named file exists. There are two legal choices for a volume identifier, either a DSID or a UUID. DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'. Here is an example of an actual DSID: 0x0000000000000401 UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 Space reservations are not supported on any volume within a Vserver

			with Infinite Volume, whether on the Infinite Volume itself or any of its constituents.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ESETSPCRESERROR	
EONTAPI_ENOSPC	
EONTAPI_EROFS	
EVOLUMEBUSY	
EONTAPI_EISVDISK	
EVOLUMEDOESNOTEXIST	
EVSERVER_OP_NOT_ALLOWED	

file-truncate-file

[top]

Truncate a file. Any data past the truncation point will be lost, of course.

Input Name	Range	Type	Description
path		string	Path of the file to truncate. The value is expected to begin with /vol/.
size	**[0..2^63-1]**	integer optional	If provided, the file size in bytes is set to this value. The default value is 0.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EFTYPE	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVSERVER_OP_NOT_ALLOWED	

file-usage-get

[top]

Reports unique bytes held in a file.

Input Name	Range	Type	Description
length		integer optional	Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1].
path		string	File name to generate report: E.g., /vol/vol1/file1
start-offset		integer optional	Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1].

Output Name	Range	Type	Description
total-bytes		integer	Number of bytes held by this file. Range : [0..2^63-1].
unique-bytes		integer	Number of bytes 'uniquely' held by this file. Range : [0..2^63-1].

Errno	Description
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EAGAIN	

file-usage-result-get

[top]

Used to poll and retrieve results for a previous file-usage-start call. EINPROGRESS indicates that the background job has not finished yet.

Input Name	Range	Type	Description
cookie		string	Cookie that was returned in an earlier file-usage-start call.

Output Name	Range	Type	Description
total-bytes		integer	Number of bytes held by this file. Range : [0..2^63-1].
unique-bytes		integer	Number of bytes 'uniquely' held by this file. Range : [0..2^63-1].

Errno	Description
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EINVAL	
EONTAPI_ESTALE	
EONTAPI_EINPROGRESS	

file-usage-start

[top]

Starts a background job to compute unique bytes held in a file. The result can be obtained by passing the cookie to file-usage-result-get call.

Input Name	Range	Type	Description
length		integer optional	Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1].
path		string	File name to generate report: E.g., /vol/vol1/file1
start-offset		integer optional	Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1].

Output Name	Range	Type	Description

cookie		string	Cookie to be used with subsequent file-usage-result-get call.

Errno	Description
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EAGAIN	

file-write-file

[top]

Write data into a named file. If the file/stream does not previously exist, it will be created - the owner of the file will be root and it will be readable but not writable by non-root users. API will fail if data exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

Input Name	Range	Type	Description
data		string	Data to be written. The format of the data is ASCII hex characters, two characters representing one byte. Whitespace characters, for convenience in formatting, can be present in the value and are ignored.
offset	**[-1..2^63-1]**	integer	Offset into file at which to start writing. If the offset is -1, the data is appended to the file. The valid maximum value for (offset + data length) is the maximum total file size which is Data ONTAP version and file system dependent. If the value of the (offset + data length) is beyond the maximum total file size, the API will fail with EAPIERROR.
overwrite		boolean optional	If false, and the file already exists, then the API will fail, with an errno of EEXIST. This allows the client to ensure that it was the exclusive creator of the file. The default value is true.
path		string	Pathname of the file to write. For example: "/vol/<volume>/<file>".
stream-name		string optional	A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be written to the named stream associated with file specified by <path> Default is empty stream name, in which case the data is written to file specified by <path> This field is available in Data ONTAP 8.2 or later.

Output Name	Range	Type	Description
length	**[0..1048576]**	integer	Number of bytes actually written.

Errno	Description
EONTAPI_EACCES	
EONTAPI_ENOENT	
EONTAPI_EFTYPE	
EBADFILELENGTH	
EVOLUMEQUIESCED	

EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	

Element definition: **file-info**

[top]

Information about a single file.

Name	Range	Type	Description
accessed-timestamp	**[0..2^32-1]**	integer	Last asscess time of the file. The value is in seconds since January 1, 1970.
acl-type		string	The type of access control list (acl) on the file. Possible values are: "no_acl", "nt_acl", "nfs_acl", and goddess forbid, "unknown".
bytes-used	**[0..2^63-1]**	integer optional	returns the number of bytes actually used on disk by this file
changed-timestamp	**[0..2^32-1]**	integer	Last changed time of the file. The value is in seconds since January 1, 1970.
creation-timestamp	**[0..2^32-1]**	integer	Creation time of the file. The value is in seconds since January 1, 1970.
dsid	**[0..2^64-1]**	integer optional	Data Set ID
file-size	**[0..2^63-1]**	integer	The size of the file in bytes.
file-type		string	Type of the file. Possible values: file, directory, blockdev, chardev, symlink, socket, fifo, stream, lun.
group-id	**[0..2^32-1]**	integer	The integer id of the group owner of the file.
hard-links-count	**[0..2^32-1]**	integer	The number of hard links to the file.
inode-gen-number	**[0..2^32-1]**	integer optional	Inode generation number
inode-number	**[0..2^32-1]**	integer	The file node number.
is-empty		boolean optional	This element tells whether directory is empty or not. Directory is considered empty if it only contains entries for "." and "..". This element is present if file is directory. In some special error cases like volume goes offline in between or directory is moved in the middle of getting this info, this field might not get set.
is-junction		boolean optional	Returns true if the directory is a junction.
is-snapshot		boolean optional	Returns true if the directory is a snapshot.
is-vm-		boolean	Returns true if the file is vm-aligned. A vm-aligned file is a file which is padded with zero-filled data at the beginning so that it's actual data starts at a different offset instead of zero. This is done in VM environments so that reads/writes to this file are aligned to WAFL's 4k

aligned		optional	block boundary. The amount by which the start offset is adjusted depends on the vm-align setting of the hosting volume. Use the volume-list-info or the volume-get-iter API to get this information.
modified-timestamp	**[0..2^32-1]**	integer	Last modification time of the file. The value is in seconds since January 1, 1970.
msid	**[0..2^64-1]**	integer optional	Mirror Set ID
name		string optional	Name of the file.
owner-id	**[0..2^32-1]**	integer	The integer id of the owner of the file.
perm		string	File permission bits. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **fingerprint-info**

[top]

FingerPrint info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate-uuid		string optional	An Universal Unique IDentifier (UUID) for the aggregate containing the volume. Attributes: non-creatable, non-modifiable
file-metadata		file-fingerprint-info optional	File fingerprint info
filer-id		uuid optional	ID (NVRAM ID) of owner. Attributes: non-creatable, non-modifiable
filer-name		string	Specifies the name of the filer. If the filer name has not been written to the disks, this will not be returned. Attributes: non-

		optional	creatable, non-modifiable
fingerprint-algorithm		fingerprintalgo optional	The digest algorithm which was used for the fingerprint computation. Fingerprint is computed using md5 or sha-256 digest algorithm. The digest algorithm to be used for the fingerprint computation can be specified when the fingerprint operation is started using the file-fingerprint-start API. If no algorithm was specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm. Attributes: non-creatable, non-modifiable Possible values: • "md5" , • "sha256"
fingerprint-end-time	**[0..2^64-1]**	integer optional	End time of fingerprint computation in seconds since January 1, 1970. Time is taken out of system clock. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable
fingerprint-input-path		string optional	Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable
fingerprint-scope		fingerprintscope optional	The file scope which was used for the fingerprint computation. Fingerprint is computed over the file data or metadata or both data and metadata depending on the scope selected when starting the fingerprint operation. If no scope was specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata. Attributes: non-creatable, non-modifiable Possible values: • "data_and_metadata" , • "data_only" , • "metadata_only"
fingerprint-start-time	**[0..2^64-1]**	integer optional	Start time of fingerprint computation in seconds since January 1, 1970. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable
fingerprint-version		string optional	Version of the fingerprint output format. Attributes: non-creatable, non-modifiable
formatted-fingerprint-end-time		string optional	End time of fingerprint computation in a human readable format :: in GMT timezone.Time is taken out of system clock. Attributes: non-creatable, non-modifiable
formatted-fingerprint-start-time		string optional	Start time of fingerprint computation in a human readable format: :: in GMT timezone. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable
formatted-snaplock-system-compliance-clock		string optional	If System Compliance Clock is initialized then human readable time :: in GMT timezone. A value of 'not_initalized' indicates that System Compliance Clock has not been initialized. Attributes: non-creatable, non-modifiable
formatted-snaplock-volume-compliance-clock		string optional	Volume Compliance Clock time for SnapLock volumes in human readable format. :: in GMT timezone. This field is not included for Non-SnapLock volumes. Attributes: non-creatable, non-modifiable
			Expiry date of the SnapLock volume in a human-readable format :: in GMT timezone. A value of 'infinite' indicates that the volume has an infinite expiry date. A value of 'indefinite' indicates that the volume has an indefinite expiry date. A value of 'unspecified' indicates that the volume has an

formatted-volume-expiry-date		string optional	unspecified expiry date. A value of 'scan_in_progress' indicates that expiry date is not displayed since WORM scan on the volume is in progress. A value of 'no_expiry_date' indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM Snapshot copies. This field is not included if the volume is offline or the volume is regular volume. Attributes: non-creatable, non-modifiable
is-volume-expiry-date-wraparound		boolean optional	True if the date represented in the field volume-expiry-date is a wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. The field is not included if volume-expiry-date is not included. Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable
snaplock-license		snaplocklicense optional	Status of SnapLock license. Attributes: non-creatable, non-modifiable Possible values: • "available" , • "not_available"
snaplock-system-compliance-clock	**[0..2^64-1]**	integer optional	If System Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable
snaplock-volume-compliance-clock	**[0..2^64-1]**	integer optional	Volume Compliance Clock time in seconds for the SnapLock volumes.The time is in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. This field is not included for Non-SnapLock volumes. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable
volume-containing-aggregate		string optional	Specifies the name of the aggregate in which the given volume resides Attributes: non-creatable, non-modifiable
volume-dsid	**[0..2^64-1]**	integer optional	The DSID (Data Set IDentifier) of the volume containing the given file. Attributes: non-creatable, non-modifiable
volume-expiry-date	**[0..2^64-1]**	integer optional	Expiry date of the SnapLock volume in seconds in the standard UNIX format(since 01/01/1970 00:00:00).Range: [0..2^64-1]. This field is not included if • Volume is non-SnapLock volume, or • SnapLock volume has an infinite expiry date, or • SnapLock volume has an indefinite expiry date, or • SnapLock volume has an unspecified expiry date, or • SnapLock volume has no WORM files or WORM Snapshot copies, or • SnapLock volume has WORM scanner in progress The volume expiry date can be in wraparound format.The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. Attributes: non-creatable, non-modifiable
volume-msid	**[0..2^64-1]**	integer optional	Volume's Mirror Set ID. Attributes: non-creatable, non-modifiable

volume-name		volume-name optional	Specifies the name of the volume on which the file resides. Attributes: non-creatable, non-modifiable
volume-snaplock-type		snaplocktype optional	The type of the SnapLock volume. This value is only given for SnapLock volumes. The possible values are : • compliance • enterprise Attributes: non-creatable, non-modifiable Possible values: • "non_snaplock" - Non SnapLock, • "compliance" - SnapLock Compliance, • "enterprise" - SnapLock Enterprise
vserver-id		uuid optional	An Universal Unique IDentifier (UUID) for the vserver owning the volume Attributes: non-creatable, non-modifiable
vserver-name		vserver-name optional	Specifies the name of the vserver which owns the volume on which the file resides. Attributes: non-creatable, non-modifiable

Element definition: **fingerprint-status-info**

[top]

Fingerprint Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
file		string optional	Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable
operation-status		wormopstatus optional	Specifies the operation status of the fingerprint operation. The operation-status of the fingerpirnt operation can be one of the following: • In-progress • Completed • Failed • Aborting • Unknown Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "in_progress" , • "failed" , • "aborting" , • "completed"
			Specifies the amount of progress that has been made on an ongoing fingerprint operation. If the operation-status of the

progress-percentage	**[0..2^32-1]**	integer optional	fingerprint operation is 'Completed' then the progress-percentage is always 100 and if the operation-status of the fingerprint operation is 'Failed' then the progress-percentage is always 0. Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable
volume		volume-name optional	Specifies the name of the volume on which the file resides. If using this parameter, the following parameters should also be specified: • vserver-name : Name of the vserver to which this volume belongs. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Specifies the name of the vserver which owns the volume on which the file resides. If using this parameter, the following parameters should also be specified: • volume-name : Name of the volume on which the file resides Attributes: key, non-creatable, non-modifiable

Element definition: **hole-range-info**

[top]

The hole start need not be an integral multiple of the block size. It will be rounded up to the start of the next block. The hole-size does not need to be the size of a block. It will be rounded down to the beginning of the block. It is possible that after the adjustments there is nothing to punch. That is ok and will be treated as success. Note that presently in WAFL small files are entirely within the inode. It is possible to "hole punch" those however nothing happens. The data is left alone. Considering the use case fot this ZAPI and the amount of effort to code the "correct" solution this is deemed an acceptable condition. If the file is vm-aligned then the range chosen to hole-punch could be rounded down by a block to ensure that we don't punch block containing valid user data.

Name	Range	Type	Description
hole-size		integer	Size of the hole in terms of bytes. If punching a hole WAFL presently limits this value to 4MB. Range : [0..2^63-1]
hole-start		integer	Starting offset of the hole. Range : [0..2^63-1]

Element definition: **inode-info**

[top]

Inode Information.

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dsid	**[0..2^64-1]**	integer optional	The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume or dsid must be specified in query. Attributes: key, non-creatable, non-modifiable
file-name		string optional	Name of the file associated with inode. Attributes: non-creatable, non-modifiable
file-path		string optional	Full path name of the file associated with the inode number. Attributes: key, non-creatable, non-modifiable
inode-number	**[0..2^32-1]**	integer	The inode number for which information is desired. Attributes: key, non-creatable, non-modifiable
parent-dir-index	**[0..2^64-1]**	integer optional	The index of the directory entry of the file in its parent directory. Attributes: non-creatable, non-modifiable
parent-inode-number	**[0..2^64-1]**	integer optional	Inode number of the parent directory of the file. Attributes: non-creatable, non-modifiable
snapshot-id	**[0..255]**	integer optional	The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snaphot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume. A value of 0 will refer to the active file system of the given volume. Attributes: non-creatable, modifiable
snapshot-name		string optional	The snapshot name within the given volume in which the given inode is to be referenced. At most, one of snapshot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume. Attributes: non-creatable, modifiable
volume		volume-name optional	The name of the volume containing the given inode. Exactly one of volume or dsid must be specified in query. Attributes: key, non-creatable, non-modifiable

Element definition: **inode-parent-info**

[top]

Inode's path and parent information.

Name	Range	Type	Description
inode-name		string optional	Name of inode in parent directory.
inode-parent-		integer optional	The opaque readdir cookie to determine the index of the inode in the parent directory tree. Note that this value is used as a testing hook, we do not

cookie			plan to support its semantics and those semantics might change over time.
inode-parent-inode-number		integer optional	Inode number of the parent directory.
inode-path		string optional	Full path to inode

Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **file-fingerprint-info**

[top]

File fingerprint info

Name	Range	Type	Description
access-time	**[0..2^64-**	integer	Access Time Attributes: non-creatable, non-modifiable

	1]	optional	
changed-time	**[0..2^64-1]**	integer optional	Changed Time Attributes: non-creatable, non-modifiable
creation-time	**[0..2^64-1]**	integer optional	Creation Time Attributes: non-creatable, non-modifiable
data-fingerprint		string optional	The digest value of data of the file. The fingerprint is base64 encoded. This field is not included if scope is 'metadata-only'. Attributes: non-creatable, non-modifiable
file		string optional	Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable
file-size	**[0..2^64-1]**	integer optional	The size of the file in bytes. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable
file-type		string optional	Type of the file. Possible values: • 'worm', • 'worm_appendable', • 'worm_active_log', • 'worm_log' and • 'regular' Attributes: non-creatable, non-modifiable
fileid	**[0..2^32-1]**	integer optional	A unique number within filesystem identifying the file for fingerprint. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
formatted-access-time		string optional	Last access time of the file formatted in a human-readable format :: in GMT timezone. The field is included for regular files and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable
formatted-changed-time		string optional	Last changed time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable
formatted-creation-time		string optional	Creation time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable
formatted-modified-time		string optional	Last modification time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable
formatted-retention-time		string optional	Expiry date of the file protected by SnapLock formatted in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. This field is not included for regular files that are not protected by SnapLock and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable
fsid	**[0..2^32-1]**	integer optional	Filesystem ID. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
group-id	**[0..2^32-1]**	integer optional	The integer id of the group owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
is-changed-time-wraparound		boolean optional	This field is included for WORM files when changed-time is in wraparound format. This field is true if the date represented in changed-time is in wraparound format and false if changed-time is not is not in wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included for regular files. Attributes: non-creatable, non-modifiable
			True if the date represented in retention-time is in wraparound format.The wraparound format indicates that dates after 01/19/2038

is-wraparound		boolean optional	are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if retention-time is not included Attributes: non-creatable, non-modifiable
litigation-count	**[0..255]**	integer optional	The number of litigations on the file. Attributes: non-creatable, non-modifiable
metadata-fingerprint		string optional	The digest value of metadata of the file. The metadata fingerprint is calculated for file size, file ctime, file mtime, file crtime, file retention time, file uid, gid and file type. The fingerprint is base64 encoded. This field is not included if scope is 'data-only'. Attributes: non-creatable, non-modifiable
modified-time	**[0..2^64-1]**	integer optional	Modification Time Attributes: non-creatable, non-modifiable
owner-id	**[0..2^32-1]**	integer optional	The integer id of the owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
owner-sid		string optional	The owner SID of the file. This field is included in the case when file has NTFS security style. Attributes: non-creatable, non-modifiable
retention-time	**[0..2^64-1]**	integer optional	Retention Time Attributes: non-creatable, non-modifiable

Element definition: **fingerprintalgo**

[top]

MD5|SHA256 Possible values:

- "md5" ,
- "sha256"

[none]

Element definition: **fingerprintscope**

[top]

data-and-metadata|data-only|metadata-only Possible values:

- "data_and_metadata" ,
- "data_only" ,
- "metadata_only"

[none]

Element definition: **snaplocklicense**

[top]

available|not_available Possible values:

- "available" ,
- "not_available"

[none]

Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **wormopstatus**

[top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

APIs in Category: **file-directory-security**

file-directory-effective-permissions-get
file-directory-security-get
file-directory-security-ntfs-create
file-directory-security-ntfs-dacl-add
file-directory-security-ntfs-dacl-get-iter
file-directory-security-ntfs-dacl-modify
file-directory-security-ntfs-dacl-remove
file-directory-security-ntfs-delete
file-directory-security-ntfs-get-iter
file-directory-security-ntfs-modify
file-directory-security-ntfs-sacl-add
file-directory-security-ntfs-sacl-get-iter
file-directory-security-ntfs-sacl-modify
file-directory-security-ntfs-sacl-remove
file-directory-security-policy-create
file-directory-security-policy-delete
file-directory-security-policy-get-iter
file-directory-security-policy-task-add
file-directory-security-policy-task-get-iter
file-directory-security-policy-task-modify
file-directory-security-policy-task-remove
file-directory-security-remove-slag
file-directory-security-set

This set of ZAPIs allows to view or set file security settings. To view security of a file/folder, pass the file/folder path name as argument to show command. To set security on a file/folder, policy needs to be created. Policy has set of tasks and each task has a file/folder path name and the security descriptor identifier which will be applied on the file/folder.

file-directory-effective-permissions-get

[top]

Gives information about the maximal access for the mentioned user on given path.

Input Name	Range	Type	Description
client-ip-address		ip-address optional	This optional parameter specifies the incoming CIFS or UNIX user client ip address.
expand-mask		boolean optional	Specifies whether to expand the bit mask of ACE.
path		string	Specifies UNIX style file or folder path for which the effective permission has to be found out.
share-name		cifs-share-name optional	This optional parameter specifies that the given path name lookup starts from cifs share map path.
unix-user-name		string optional	Specifies name of the UNIX user for which the effective permission has to be found out.
win-user-name		string optional	Specifies name of the Windows user for which the effective permission has to be found out.

Output Name	Range	Type	Description
permission		fsecurity-acl[]	Specifies the resultant NT style effective permission.
share-path		string optional	The CIFS share path.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-get

[top]

Returns security information of a file/folder

Input Name	Range	Type	Description
cifs-share-name		cifs-share-name optional	Specifies that the given path name lookup starts from cifs share map path. Mutually exclusive with volume-name field.
expand-mask		boolean optional	Specifies whether to expand the bit mask of DOS attributes, security descriptor's control flags and every ACE.
inode		integer optional	File Inode Number
lookup-names		boolean optional	Specifies whether the SID needs to be converted to user/group name.
path		string optional	Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver
sddl		boolean optional	Specifies whether to show the acls in windows sddl format.
textual-mask		boolean optional	Specifies whether to show the mask in textual format.
volume-name		volume-name optional	Specifies that the given path name lookup starts from volume junction path. Mutually exclusive with cifs-share-name field.

Output Name	Range	Type	Description
acls		fsecurity-acl[] optional	NTFS or NFSV4 Security descriptor ACLs.
dos-attributes		integer optional	DOS Attributes
effective-style		security-style-enum	Effective security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security.
expanded-dos-attr		string optional	Bitwise expanded DOS Attributes of the specified file/folder path. This field returns value if expand mask is true. Example follows, DOS Attributes: ...0 .... = Offline .... ..0. .... = Sparse .... 0... .... = Normal ....0. .... = Archive ....1 .... = Directory .... .0.. = System ....0. = Hidden ....0 = Read Only
inode		integer optional	File Inode Number
path		string optional	Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver
security-style		security-style-enum	Security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security.
text-dos-attr		string optional	DOS Attributes in Text
unix-group-id		integer optional	UNIX Group Id
unix-mode-bits		integer optional	Unix mode permission bits in octal value.
unix-user-id		integer optional	UNIX User Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-create

[top]

Creates a new NTFS security descriptor

Input Name	Range	Type	Description
			Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags. 1... .... = Self Relative .0.. .... = RM Control Valid ..0. .... = SACL Protected

control-flags-raw	**[0..2^32-1]**	integer optional	...0 .... = DACL Protected .... 0... .... = SACL Inherited .... .0.. .... = DACL Inherited .... ..0. .... = SACL Inherit Required ....0 .... = DACL Inherit Required ....0. .... = SACL Defaulted ....0 .... = SACL Present .... 0... = DACL Defaulted .... .1.. = DACL Present ....0. = Group Defaulted ....0 = Owner Defaulted At present only the following flags are honored. Others are ignored. ..0. .... = SACL Protected ...0 .... = DACL Protected ....0. .... = SACL Defaulted .... 0... = DACL Defaulted ....0. = Group Defaulted ....0 = Owner Defaulted
group		name-or-sid optional	Specifies group's SID or domain account name of NTFS security descriptor.
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
owner		name-or-sid optional	Specifies owner's SID or domain account name of NTFS security descriptor.
return-record		boolean optional	If set to true, returns the file-directory-security-ntfs on successful creation. Default: false

Output Name	Range	Type	Description
result		file-directory-security-ntfs optional	The file-directory-security-ntfs created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-dacl-add

[top]

Add a discretionary access control entry to NTFS security descriptor.

Input Name	Range	Type	Description
access-type		access-type	Specifies DACL ACE's access type. Possible values: • "deny" , • "allow"
account		name-or-sid	Specifies DACL ACE's SID or domain account name of NTFS security descriptor.
			Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values: • "read_data" , • "write_data" ,

advanced-rights		advanced-access-rights[] optional	• "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[] optional	Specifies apply DACL entry. Possible values: • "this_folder" , • "sub_folders" , • "files"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-dacl-get-iter

[top]

Returns information about one or more discretionary access control entries

Input Name	Range	Type	Description
desired-attributes		file-directory-security-ntfs-dacl optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		file-directory-	A query that specifies which objects to return. A query could be

query		security-ntfs-dacl optional	specified on any number of attributes in the file-directory-security-ntfs-dacl object. All file-directory-security-ntfs-dacl objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-ntfs-dacl[] optional	The list of attributes of file-directory-security-ntfs-dacl objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-ntfs-dacl objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-dacl-modify

[top]

Modify a discretionary access control entry of a file security descriptor

Input Name	Range	Type	Description
access-type		access-type	Specifies DACL ACE's access type. Possible values: • "deny" , • "allow"
account		name-or-sid	Specifies DACL ACE's SID or domain account name of NTFS security descriptor.
advanced-rights		advanced-access-rights[] optional	Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
			Specifies this ACE has to be applied on. Possible values:

apply-to		inheritance-level[] optional	• "this_folder" , • "sub_folders" , • "files"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-dacl-remove

[top]

Remove a discretionary access control entry from NTFS security descriptor.

Input Name	Range	Type	Description
access-type		access-type	Specifies DACL ACE's access type. Possible values: • "deny" , • "allow"
account		name-or-sid	Specifies DACL ACE's SID or domain account name of NTFS security descriptor.
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-delete

[top]

Deletes an NTFS security descriptor information

Input Name	Range	Type	Description
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-get-iter

[top]

Returns information about one or more NTFS security descriptor

Input Name	Range	Type	Description
desired-attributes		file-directory-security-ntfs optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		file-directory-security-ntfs optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs object. All file-directory-security-ntfs objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-ntfs[] optional	The list of attributes of file-directory-security-ntfs objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-ntfs objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-modify

[top]

Modifies an NTFS security descriptor

Input Name	Range	Type	Description
			Specifies the security descriptor control flags in hexa decimal. The

control-flags-raw	**[0..2^32-1]**	integer optional	following are the bit fields of control flags. 1... .... = Self Relative .0.. .... = RM Control Valid ..0. .... = SACL Protected ...0 .... = DACL Protected .... 0... .... = SACL Inherited .... .0.. .... = DACL Inherited .... ..0. .... = SACL Inherit Required ....0 .... = DACL Inherit Required ....0. .... = SACL Defaulted ....0 .... = SACL Present .... 0... = DACL Defaulted .... .1.. = DACL Present ....0. = Group Defaulted ....0 = Owner Defaulted At present only the following flags are honored. Others are ignored. ..0. .... = SACL Protected ...0 .... = DACL Protected ....0. .... = SACL Defaulted .... 0... = DACL Defaulted ....0. = Group Defaulted ....0 = Owner Defaulted
group		name-or-sid optional	Specifies group's SID or domain account name of NTFS security descriptor.
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
owner		name-or-sid optional	Specifies owner's SID or domain account name of NTFS security descriptor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-sacl-add

[top]

Add a system/audit access control entry to NTFS security descriptor.

Input Name	Range	Type	Description
account		name-or-sid	Specifies SACL ACE's SID or domain account name of NTFS security descriptor.
advanced-		advanced-access-	Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" ,

rights		rights[] optional	"delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[] optional	Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values: • "this_folder" , • "sub_folders" , • "files"
audit-access-type		audit-access-type	Specifies SACL ACE's access type. Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies SACL ACE's access rights. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-sacl-get-iter

[top]

Returns information about one or more system/audit access control entries

Input Name	Range	Type	Description
desired-attributes		file-directory-security-ntfs-sacl optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		file-directory-security-ntfs-sacl optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs-sacl object. All file-directory-security-ntfs-sacl objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-ntfs-sacl[] optional	The list of attributes of file-directory-security-ntfs-sacl objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-ntfs-sacl objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-sacl-modify

[top]

Modify an system/audit access control entry of a file security descriptor

Input Name	Range	Type	Description
account		name-or-sid	Specifies SACL ACE's SID or domain account name of NTFS security descriptor.
advanced-rights		advanced-access-rights[] optional	Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[]	Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values: • "this_folder" ,

		optional	• "sub_folders" , • "files"
audit-access-type		audit-access-type	Specifies SACL ACE's access type. Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies SACL ACE's access rights. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-sacl-remove

[top]

Remove an system/audit access control entry from NTFS security descriptor.

Input Name	Range	Type	Description
account		name-or-sid	Specifies SACL ACE's SID or domain account name of NTFS security descriptor.
audit-access-type		audit-access-type	Specifies SACL ACE's access type. Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-create

[top]

Creates a new file/folder security policy configuration. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
policy-name		file-security-policy-name	Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.
return-record		boolean optional	If set to true, returns the file-directory-security-policy on successful creation. Default: false

Output Name	Range	Type	Description
result		file-directory-security-policy optional	The file-directory-security-policy created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

file-directory-security-policy-delete

[top]

Deletes a file/folder security policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
policy-name		file-security-policy-name	Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-get-iter

[top]

Returns information about one or more security policies. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
desired-attributes		file-directory-security-policy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		file-directory-security-policy optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy object. All file-directory-security-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-policy[] optional	The list of attributes of file-directory-security-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-policy-task-add

[top]

Add a file security policy task. A task maps security descriptor with a file or folder.

Input Name	Range	Type	Description
access-control		access-control optional	Specifies the access control of task to be applied. Its value can be file-directory or slag respectively. The slag value is not supported on FlexGroups. Default value will be file-directory. Possible values: • "file_directory" , • "slag"
		ntfs-	Specifies NTFS propagation mode. Possible values:

ntfs-mode		propagation-mode optional	"propagate" , • "ignore" , • "replace"
ntfs-sd		file-security-ntfs-sd[] optional	Specifies NTFS security descriptor identifier.
path		string	Specifies the file or folder path of the task. In case of SLAG this path specify the volume or qtree mounted path.
policy-name		file-security-policy-name	Specifies the name of the policy to which the task needs to be added.
security-type		security-type optional	Specifies the type of security. Possible values: • "ntfs" , • "nfsv4"
task-index-number	**[1..10000]**	integer optional	Specifies the target index/position of this task in the policy. If a policy has already 5 tasks and this is the 6th task you are adding and you want to add this task as 2nd task, you can specifiy the index 2. By default the task gets added as last task. If the index number exceeds the number of positions, it will go at the end.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-task-get-iter

[top]

Returns information about one or more policy tasks. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
desired-attributes		file-directory-security-policy-task optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		file-directory-security-policy-task optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy-task object. All file-directory-security-policy-task objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-policy-task[] optional	The list of attributes of file-directory-security-policy-task objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-policy-task objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-policy-task-modify

[top]

Modify a file security policy task

Input Name	Range	Type	Description
ntfs-mode		ntfs-propagation-mode optional	NTFS Propagation Mode Possible values: • "propagate" , • "ignore" , • "replace"
ntfs-sd		file-security-ntfs-sd[] optional	NTFS Security Descriptor Name
path		string	Path
policy-name		file-security-policy-name	Policy Name
security-type		security-type optional	Security Type Possible values: • "ntfs" , • "nfsv4"
task-index-number	**[1..10000]**	integer optional	Position

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-task-remove

[top]

Remove a task from the policy of a vserver.

Input Name	Range	Type	Description
path		string	Specifies the file or folder path of the task.
policy-		file-security-policy-	Specifies the name of the policy from which the task has

name		name	been removed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-remove-slag

[top]

Removes SLAG from the specified volume or qtree path.

Input Name	Range	Type	Description
path		string	Specifies the path of the volume or qtree from which slag to be removed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-set

[top]

Apply security descriptors on files and directories defined in a policy to a Vserver

Input Name	Range	Type	Description
ignore-broken-symlinks		boolean optional	Skip Broken Symlinks
ismodify		boolean optional	Modify SD op through REST
policy-name		file-security-policy-name	Specifies the name of the policy whose security settings have to be applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

Element definition: **file-directory-security-ntfs** [top]

NTFS security descriptor management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
control-flags-raw	**[0..2^32-1]**	integer optional	Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags. 1... .... = Self Relative .0.. .... = RM Control Valid ..0. .... = SACL Protected ...0 .... = DACL Protected .... 0... .... = SACL Inherited .... .0.. .... = DACL Inherited .... ..0. .... = SACL Inherit Required ....0 .... = DACL Inherit Required ....0. .... = SACL Defaulted ....0 .... = SACL Present .... 0... = DACL Defaulted .... .1.. = DACL Present ....0. = Group Defaulted ....0 = Owner Defaulted At present only the following flags are honored. Others are ignored. ..0. .... = SACL Protected ...0 .... = DACL Protected ....0. .... = SACL Defaulted .... 0... = DACL Defaulted ....0. = Group Defaulted ....0 = Owner Defaulted Attributes: optional-for-create,

			modifiable
group		name-or-sid optional	Specifies group's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable
ntfs-sd		file-security-ntfs-sd optional	Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable
owner		name-or-sid optional	Specifies owner's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-directory-security-ntfs-dacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-type		access-type optional	Specifies DACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values: • "deny" , • "allow"
account		name-or-sid optional	Specifies DACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable
advanced-rights		advanced-access-rights[] optional	Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"

apply-to		inheritance-level[] optional	Specifies this ACE has to be applied on. Attributes: optional-for-create, modifiable Possible values: • "this_folder" , • "sub_folders" , • "files"
ntfs-sd		file-security-ntfs-sd optional	Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable
readable-access-rights		string optional	Specifies the current access rights. The access rights must be set to one among rights,advanced-rights,rights-raw. Attributes: non-creatable, non-modifiable
rights		access-rights optional	Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-directory-security-ntfs-sacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account		name-or-sid optional	Specifies SACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable
			Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Attributes: optional-for-create, modifiable Possible values: • "read_data" , • "write_data" ,

advanced-rights		advanced-access-rights[] optional	• "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[] optional	Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Attributes: optional-for-create, modifiable Possible values: • "this_folder" , • "sub_folders" , • "files"
audit-access-type		audit-access-type optional	Specifies SACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd optional	Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable
readable-access-rights		string optional	Specifies the current access rights. Access rights can be specified by one of the following fields, rights, advanced-rights and rights-raw. These fields are mutually exclusive fields. If rights field is set and other two fields (advanced-rights, rights-raw) cant be set and so readable-access-rights field has the value of rights field. If rights-raw field is set and other two fields (advanced-rights, rights) are not set then readable-access-rights field has the value of rights-raw field. If advanced-rights field is set and other two fields (rights, rights-raw) are not set then readable-access-rights field has the value of advanced-rights field. Attributes: non-creatable, non-modifiable
rights		access-rights optional	Specifies SACL ACE's access rights. Attributes: optional-for-create, modifiable Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable
vserver		vserver-name	Vserver Attributes: key, non-creatable, non-modifiable

		optional	

Element definition: **file-directory-security-policy**

[top]

File/folder security policy management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
policy-name		file-security-policy-name optional	Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-directory-security-policy-task**

[top]

File security policy task management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-control		access-control optional	Access Control Level Attributes: non-creatable, non-modifiable Possible values: • "file_directory" , • "slag"
ntfs-mode		ntfs-propagation-mode optional	NTFS Propagation Mode Attributes: non-creatable, non-modifiable Possible values: • "propagate" , • "ignore" , • "replace"

ntfs-sd		file-security-ntfs-sd[] optional	NTFS Security Descriptor Name Attributes: non-creatable, non-modifiable
path		string optional	Path Attributes: key, non-creatable, non-modifiable
policy-name		file-security-policy-name optional	Policy Name Attributes: key, non-creatable, non-modifiable
security-type		security-type optional	Security Type Attributes: non-creatable, non-modifiable Possible values: • "ntfs" , • "nfsv4"
task-index-number	**[1..10000]**	integer optional	Position Attributes: key, non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-security-ntfs-sd**

[top]

NTFS file security descriptor identifier. This can be any valid text input.

[none]

Element definition: **file-security-policy-name**

[top]

The file/folder security policy identifier. This can be any valid text.

[none]

Element definition: **fsecurity-acl**

[top]

Security access control list.

[none]

Element definition: **inheritance-level**

[top]

this-folder|sub-folders|files Possible values:

- "this_folder" ,
- "sub_folders" ,
- "files"

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **name-or-sid** [top]

An user or group name that is specified in the form of valid username/groupname with domain or valid SID string

[none]

Element definition: **ntfs-propagation-mode** [top]

propagate|ignore|replace Possible values:

- "propagate" ,
- "ignore" ,
- "replace"

[none]

Element definition: **security-style-enum** [top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **security-type** [top]

ntfs|nfsv4 Possible values:

- "ntfs" ,
- "nfsv4"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **fileservice-audit**

fileservice-audit-config-create
fileservice-audit-config-get
fileservice-audit-config-get-iter
fileservice-audit-config-get-total-records
fileservice-audit-config-modify
fileservice-audit-disable
fileservice-audit-enable
fileservice-audit-remove
fileservice-audit-repair
fileservice-audit-rotate-log

This set of ZAPIs help manage the File Service Audit settings for auditing file access over CIFS and NFS, CIFS logon, logoff and management events.

fileservice-audit-config-create

[top]

Create audit configuration for a Vserver

Input Name	Range	Type	Description
destination		string	Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error
events		audit-events[] optional	The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values: • "file_ops" - File Operation Events, • "cifs_logon_logoff" - CIFS Logon and Logoff Events, • "cap_staging" - Central Access Policy Staging Events, • "file_share" - File Share Category Events, • "audit_policy_change" - Audit Policy Change Events, • "user_account" - Local User Account Management Events, • "authorization_policy_change" - Authorization Policy Change Events, • "security_group" - Local Security Group Management Events, • "async_delete" - Volume File Async Delete Events
format		audit-format optional	The format in which the logs would be generated by consolidation process. Default: evtx Possible values: • "xml" - Data ONTAP-Specific XML Log Format, • "evtx" - Microsoft Windows EVTX Log Format
retention-duration		elapsed-time-ext optional	Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s

return-record		boolean optional	If set to true, returns the fileservice-audit-config on successful creation. Default: false
rotate-limit	**[0..2^32-1]**	integer optional	Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0
rotate-schedule-day		cron-day-of-month[] optional	Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-dayofweek		cron-day-of-week[] optional	Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-hour		cron-hour[] optional	Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-minute		cron-minute[] optional	Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-month		cron-month[] optional	Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-size		audit-rotate-size-or-dash optional	Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB

Output Name	Range	Type	Description
result		fileservice-audit-config optional	The fileservice-audit-config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

fileservice-audit-config-get

[top]

Show Audit configuration details for a Vserver

Input Name	Range	Type	Description
desired-attributes		fileservice-audit-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		fileservice-audit-config	The attributes of the fileservice-audit-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

fileservice-audit-config-get-iter

[top]

Show Audit configuration details for all Vservers

Input Name	Range	Type	Description
desired-attributes		fileservice-audit-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fileservice-audit-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fileservice-audit-config object. All fileservice-audit-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fileservice-audit-config[] optional	The list of attributes of fileservice-audit-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fileservice-audit-config objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fileservice-audit-config-get-total-records

[top]

Return the total number of records

Output Name	Range	Type	Description
count	[0..2^64-1]	integer	The total number of fileservice-audit-config objects.

fileservice-audit-config-modify

[top]

Modify audit configuration for a Vserver

Input Name	Range	Type	Description
audit-guarantee		boolean optional	Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true
destination		string optional	Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error
events		audit-events[] optional	The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values: • "file_ops" - File Operation Events, • "cifs_logon_logoff" - CIFS Logon and Logoff Events, • "cap_staging" - Central Access Policy Staging Events, • "file_share" - File Share Category Events, • "audit_policy_change" - Audit Policy Change Events, • "user_account" - Local User Account Management Events, • "authorization_policy_change" - Authorization Policy Change Events, • "security_group" - Local Security Group Management Events, • "async_delete" - Volume File Async Delete Events
format		audit-format optional	The format in which the logs would be generated by consolidation process. Default: evtx Possible values: • "xml" - Data ONTAP-Specific XML Log Format, • "evtx" - Microsoft Windows EVTX Log Format
retention-duration		elapsed-time-ext optional	Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s
rotate-limit	**[0..2^32-1]**	integer optional	Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0
rotate-schedule-day		cron-day-of-month[] optional	Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-dayofweek		cron-day-of-week[] optional	Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-hour		cron-hour[] optional	Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-minute		cron-minute[] optional	Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-month		cron-month[] optional	Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
		audit-rotate-	Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters.

rotate-size		size-or-dash optional	If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

fileservice-audit-disable

[top]

Disable Auditing for specified Vserver

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

fileservice-audit-enable

[top]

Enable Auditing for specified Vserver.

Events on FlexGroup volumes will not be emitted to the audit log.

Input Name	Range	Type	Description
force		boolean optional	Force Enable

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	
ENOSTAGINGVOLUME	

fileservice-audit-remove

[top]

Disable Audit Configuration for specified vserver

Input Name	Range	Type	Description
force		boolean optional	Force Delete

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

fileservice-audit-repair

[top]

Repair the audit infrastructure

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

fileservice-audit-rotate-log

[top]

Rotate audit log for specified vserver

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,
- "authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

Element definition: **audit-format**

[top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

Element definition: **audit-rotate-size-or-dash** [top]

[none]

Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month** [top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

Element definition: **fileservice-audit-config**

[top]

Vserver Audit configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
audit-guarantee		boolean optional	Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true Attributes: non-creatable, modifiable
destination		string optional	Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error Attributes: required-for-create, modifiable
events		audit-events[] optional	The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Attributes: optional-for-create, modifiable Possible values: • "file_ops" - File Operation Events, • "cifs_logon_logoff" - CIFS Logon and Logoff Events, • "cap_staging" - Central Access Policy Staging Events, • "file_share" - File Share Category Events, • "audit_policy_change" - Audit Policy Change Events, • "user_account" - Local User Account Management Events, • "authorization_policy_change" - Authorization Policy Change Events, • "security_group" - Local Security Group Management Events, • "async_delete" - Volume File Async Delete Events
format		audit-format optional	The format in which the logs would be generated by consolidation process. Default: evtx Attributes: optional-for-create, modifiable Possible values: • "xml" - Data ONTAP-Specific XML Log Format, • "evtx" - Microsoft Windows EVTX Log Format

is-enabled		boolean optional	Auditing State. Default: false Attributes: non-creatable, non-modifiable
retention-duration		elapsed-time-ext optional	Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s Attributes: optional-for-create, modifiable
rotate-limit	**[0..2^32-1]**	integer optional	Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 Attributes: optional-for-create, modifiable
rotate-schedule-day		cron-day-of-month[] optional	Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-dayofweek		cron-day-of-week[] optional	Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-hour		cron-hour[] optional	Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-minute		cron-minute[] optional	Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-month		cron-month[] optional	Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-size		audit-rotate-size-or-dash optional	Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB Attributes: optional-for-create, modifiable
rotation-schedule-description		string optional	Rotation schedules derived from rotation time related parameters Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,

"authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

Element definition: **audit-format** [top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

Element definition: **audit-rotate-size-or-dash** [top]

[none]

Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **flash**

flash-get-thresholds
flash-thresholds-get-iter

The Flash Management Module (FMM) is the management interface to access information about flash devices in the system.

flash-get-thresholds

[top]

Get threshold profiles available in Flash Management Module.

Input Name	Range	Type	Description
node		string	The name of the system to which the flash thresholds apply.
profile		string optional	Name of the threshold profile. If not provided, all available profiles will be printed.

Output Name	Range	Type	Description
flash-threshold-profile		flash-threshold-profile[] optional	A collection of failure threshold entries.

flash-thresholds-get-iter

[top]

Iterate over a list of Flash Cache threshold profiles objects.

Input Name	Range	Type	Description
desired-attributes		flash-threshold-profile optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		flash-threshold-profile optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache threshold profiles object. All Flash Cache threshold profiles objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flash-threshold-profile[] optional	The list of attributes of Flash Cache threshold profiles objects.

next-tag		string optional	Tag for the next call. Not present when there are no more Flash Cache threshold profiles objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **flash-threshold-profile**

[top]

A definition for a threshold element

Name	Range	Type	Description
flash-threshold		flash-threshold[]	The list of threshold entries for this profile.
node		string	The name of the system to which the flash thresholds apply.
profile		string	The name of the profile in plain text.

Element definition: **flash-threshold**

[top]

A definition for a threshold element. Each threshold specifies what level of errors or failures the specified domain can sustain before the specified action is taken.

Name	Range	Type	Description
action		string	Action to be taken if this threshold is exceeded. Possible values: "log an EMS event", "log an EMS_event, and disable the 'domain'", "log an EMS event, and send an AutoSupport message", "log an EMS event, send an AutoSupport message, and disable the 'domain'"
domain		string	The type of domain. Possible values: "card", "bank", "chip" (in Data ONTAP 7.3.x to 8.1) or "lun" (from Data ONTAP 8.2 onwards).
threshold-units		string	The metric for threshold. Possible values: "count", or "percentage".
threshold-value	**[0..2^31-1]**	integer	Threshold value in 'threshold-units'.
time-slice		string	The time slice. Available if the 'threshold-unit' is "count". If not, output will say 'none'. Possible values: "none", "seconds", "minutes", or "hours".

APIs in Category: **flash-device**

flash-device-get-iter
flash-device-list-info

Flash Cache is the caching device. This interface is used to access information about Flash Cache devices in the system.

flash-device-get-iter

[top]

Iterate over a list of Flash Cache device info objects.

Input Name	Range	Type	Description
desired-attributes		flash-device-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		flash-device-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache device info object. All Flash Cache device info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flash-device-info[] optional	The list of attributes of Flash Cache device info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Flash Cache device info objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

flash-device-list-info

[top]

Get a collection of Flash Cache device info objects.

Input Name	Range	Type	Description
node		node-name	Node
slot-number		integer	Slot

		optional	
subslot-number		integer optional	Subslot

Output Name	Range	Type	Description
flash-device-info		flash-device-info[] optional	Information about Flash Cache devices

Errno	Description
EINTERNALERROR	

Element definition: **flash-device-info**

[top]

Information about Flash Cache devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
average-erase-cycle-count	**[0..2^64-1]**	integer optional	Avg Erase Cycle Count Attributes: non-creatable, non-modifiable
capacity	**[0..2^32-1]**	integer optional	Capacity Attributes: non-creatable, non-modifiable
device-id	**[0..2^32-1]**	integer optional	Device ID Attributes: key, non-creatable, non-modifiable
firmware-file		string optional	Firmware Filename Attributes: non-creatable, non-modifiable
firmware-revision		string optional	Firmware Version Attributes: non-creatable, non-modifiable
hardware-revision		string optional	Hardware Revision Attributes: non-creatable, non-modifiable
last-change-time	**[0..2^32-1]**	integer optional	Time Last State Change Attributes: non-creatable, non-modifiable
model-name		string optional	Model Number Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
part-number		string optional	Part Number Attributes: non-creatable, non-modifiable
percent-online	**[0..2^32-1]**	integer optional	Percent Online Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial Number Attributes: non-creatable, non-modifiable
service-time	**[0..2^64-**	integer	Service Time Attributes: non-creatable, non-modifiable

	1]	optional	
slot-number	**[0..2^32-1]**	integer optional	Slot Attributes: key, non-creatable, non-modifiable
slot-string		string optional	Slot String Attributes: non-creatable, non-modifiable
status		fc-dev-status optional	Device State Attributes: non-creatable, non-modifiable Possible values: • "ok" , • "erasing" , • "erased" , • "failed" , • "removed" , • "online" , • "offline_failed" , • "degraded" , • "offline_threshold"
subslot-number	**[0..2^32-1]**	integer optional	Subslot Attributes: key, non-creatable, non-modifiable
threshold-profile		string optional	Threshold Profile Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **fc-dev-status**

[top]

ok|erasing|erased|failed|removed|online|offline_failed|degraded|offline_threshold Possible values:

- "ok" ,
- "erasing" ,
- "erased" ,
- "failed" ,
- "removed" ,
- "online" ,
- "offline_failed" ,
- "degraded" ,
- "offline_threshold"

[none]

APIs in Category: **flexcache**

flexcache-connected-cache-get-iter
flexcache-create-async
flexcache-default-size-get
flexcache-destroy-async
flexcache-get-iter
flexcache-origin-cleanup-cache-relationship
flexcache-origin-config-get-iter
flexcache-origin-config-modify
flexcache-usage-get

This set of APIs allow configuring and managing FlexCache on Data ONTAP Cluster-Mode environment.

flexcache-connected-cache-get-iter

[top]

Retrieve connected cache information. This must be run at the origin cluster.

Input Name	Range	Type	Description
desired-attributes		flexcache-origin-connected-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		flexcache-origin-connected-cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin object. All flexcache-origin objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flexcache-origin-connected-cache-info[] optional	The list of attributes of flexcache-origin objects.
next-tag		string optional	Tag for the next call. Not present when there are no more flexcache-origin objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EINTERNALERROR	

flexcache-create-async

[top]

Create a cache relationship. This must be run at the cache cluster.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent.
aggr-list-multiplier		integer optional	Aggregate list repeat count
auto-provision-as		autoprovisionvolumetype optional	Automatically provision as volume of type
is-disconnected-mode-off-for-locks		boolean optional	Specifies if the origin will honor the cache side locks when doing the lock checks in the disconnected mode. The default value will be set to false to allow origin to skip such lock checks with the disconnected cache and go ahead with processing of the conflicting locks. If set to true the origin denies the lock operation (open or byte-range) if it conflicts with the authority granted to the disconnected cache.
is-global-file-locking-enabled		boolean optional	Global file locking mode
is-relative-size-enabled		boolean optional	Relative Sizing for Flexcache
is-writeback-enabled		boolean optional	Writeback for FlexCache
junction-path		junction-path optional	Junction path of the cache volume
origin-volume		volume-name	The name of the origin volume for the cache volume.
origin-vserver		xc-vs-name optional	The name of origin Vserver where the origin volume resides
per-inode-dirty-limit		integer optional	Flexcache Per Inode Dirty Limit
relative-size-percentage		integer optional	Flexcache Relative Size Percentage
size		size optional	Size of cache volume
space-guarantee		space-guarantee-enum optional	Flexcache volume space guarantee type
use-tiered-aggregate		boolean optional	Flexcache volume uses fabricpool aggregate
volume		volume-name	The name of the cache volume.
writeback-		integer	

scrub-threshold		optional	Flexcache Writeback Scrub Threshold
writeback-transfer-limit		integer optional	Flexcache Writeback Transfer Limit

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this flexcache.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EINTERNALERROR	
ESERVICENOTLICENSED	
EVSERVERNOTFOUND	
EVOLUMENAMEINVALID	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLALREADYMOUNTED	
EINSUFFICIENTAGGREGATES	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	
EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_MCC_UNSUPPORTED	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM	
E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MAXIMUM	
EVOLEXISTS	

flexcache-default-size-get

[top]

Get recommended FlexCache size

Input Name	Range	Type	Description
origin-size	**[0..2^64-1]**	integer	Origin Size

Output Name	Range	Type	Description
flexcache-size	**[0..2^64-1]**	integer optional	FlexCache Size

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

flexcache-destroy-async

[top]

Delete a cache relationship. This must be run at the cache cluster. A job will be spawned to operate on the flexcache and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		volume-name	The name of the cache volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

flexcache-get-iter

[top]

Get a set of cache relationships. This must be run at the cache cluster.

Input Name	Range	Type	Description
desired-attributes		flexcache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		flexcache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache object. All flexcache objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flexcache-info[] optional	The list of attributes of flexcache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more flexcache objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

flexcache-origin-cleanup-cache-relationship

[top]

Cleanup cache relationship. This must be run at the origin cluster.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EINTERNALERROR	
FEATURE/COMMAND_NOT_SUPPORTED	

flexcache-origin-config-get-iter

[top]

Get FlexCache origin configuration for all origin volume. This must be run at the origin cluster.

Input Name	Range	Type	Description
desired-attributes		flexcache-origin-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		flexcache-origin-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin-config object. All flexcache-origin-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		flexcache-origin-config[] optional	The list of attributes of flexcache-origin-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more flexcache-origin-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

flexcache-origin-config-modify

[top]

Modify the FlexCache origin configuration. This must be run at the origin cluster.

Input Name	Range	Type	Description
is-bli-enabled		boolean optional	Is BLI Enabled.
is-global-file-locking-enabled		boolean optional	Is Global File Locking Enabled.
origin-volume		volume-name	Name of the origin volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

flexcache-usage-get

[top]

Get the capacity used by FlexCache

Output Name	Range	Type	Description
used-size	**[0..2^64-1]**	integer optional	Total FlexCache Size
used-size-pct	**[0..2^64-1]**	integer optional	Percentage of Licensed Capacity Used

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **autoprovisionvolumetype** [top]

FlexGroup Possible values:

- "flexgroup"

[none]

Element definition: **flexcache-info** [top]

Information about the cache relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. Attributes: optional-for-create, non-modifiable
create-time		date optional	FlexCache Volume Create Time Attributes: non-creatable, non-modifiable
flexgroup-msid	**[0..2^64-1]**	integer optional	Cache volume's FlexGroup MSID Attributes: non-creatable, non-modifiable
junction-path		junction-path optional	Junction path of the cache volume Attributes: optional-for-create, non-modifiable
origin-cluster		cluster-name optional	The name of the origin cluster, where the origin Vserver and origin volume reside Attributes: non-creatable, non-modifiable
origin-volume		volume-name optional	The name of the origin volume for the cache volume. Attributes: required-for-create, non-modifiable
origin-volume-msid	**[0..2^64-1]**	integer optional	Origin volume's MSID Attributes: non-creatable, non-modifiable
origin-vserver		xc-vs-name optional	The name of origin Vserver where the origin volume resides Attributes: optional-for-create, non-modifiable
origin-vserver-uuid		uuid optional	Origin Vserver UUID Attributes: non-creatable, non-modifiable

size		size optional	Size of cache volume Attributes: optional-for-create, non-modifiable
space-guarantee		space-guarantee-enum optional	Flexcache volume space guarantee type Attributes: optional-for-create, non-modifiable Possible values: • "none" , • "volume"
volume		volume-name optional	The name of the cache volume. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	The name of the Vserver which owns the volume. Attributes: key, non-creatable, non-modifiable

Element definition: **flexcache-origin-config**

[top]

FlexCache Origin Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-bli-enabled		boolean optional	Is BLI Enabled. Attributes: non-creatable, modifiable
is-global-file-locking-enabled		boolean optional	Is Global File Locking Enabled. Attributes: non-creatable, modifiable
origin-volume		volume-name optional	Name of the origin volume. Attributes: key, non-creatable, non-modifiable
origin-vserver		vserver-name optional	Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **flexcache-origin-connected-cache-info**

[top]

Information of caches connected to the origin When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cache-cluster		cluster-name optional	Name of the cache cluster. Attributes: non-creatable, non-modifiable
cache-volume		volume-name optional	Name of the cache volume. Attributes: key, non-creatable, non-modifiable
cache-vserver		xc-vs-name optional	Name of the cache Vserver. Attributes: key, non-creatable, non-modifiable
origin-volume		volume-name optional	Name of the origin volume. Attributes: key, non-creatable, non-modifiable
origin-vserver		vserver-name optional	Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **space-guarantee-enum**

[top]

none|volume Possible values:

- "none" ,
- "volume"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **xc-vs-name**

[top]

Cross Cluster Vserver Name

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **fpolicy**

fpolicy-create-policy
fpolicy-destroy-policy
fpolicy-disable
fpolicy-disable-policy
fpolicy-enable
fpolicy-enable-policy
fpolicy-extensions
fpolicy-extensions-list-info
fpolicy-get-policy-options
fpolicy-get-required-info
fpolicy-get-secondary-servers-info
fpolicy-list-info
fpolicy-operations-list-set
fpolicy-passthrough-read-connection-get-iter
fpolicy-policy-create
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fpolicy-policy-event-create
fpolicy-policy-event-delete
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fpolicy-policy-event-modify
fpolicy-policy-external-engine-create
fpolicy-policy-external-engine-delete
fpolicy-policy-external-engine-get-iter
fpolicy-policy-external-engine-modify
fpolicy-policy-get-iter
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fpolicy-policy-scope-create
fpolicy-policy-scope-delete
fpolicy-policy-scope-get-iter
fpolicy-policy-scope-modify
fpolicy-policy-status-get-iter
fpolicy-server-connect
fpolicy-server-disconnect
fpolicy-server-list-info
fpolicy-server-status-get-

This set of APIs enables programmatic control of policy life cycle including: creation, enablement, configuration, monitoring, and deletion. Also, it includes commands for server monitoring and control, as well as notification filtering based on file extension. FPolicy APIs provided for Data ONTAP Clustered-Mode environment enables in creating/modifying/deleting/retrieving following FPolicy entities:

1. Event: This collectively specifies the protocols, fileops, for which notification is generated.

2. Scope: This specifies the scope on which FPolicy will be working on. A scope can be on a volume, share, or a export policy. Scope also contains the file extensions.

3. External-Engine: This specifies the attributes required for a notification to be sent to external FPolicy servers.

4. Policy: Once an event and external engine is created, it can be attached to a policy. A scope has to be defined for a policy before it is enabled to run.

iter
fpolicy-server-stop
fpolicy-set-policy-options
fpolicy-set-required
fpolicy-set-secondary-servers
fpolicy-status
fpolicy-volume-list-info
fpolicy-volume-list-set

fpolicy-create-policy

[top]

Creates a new policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.
policy-type		string	Type of the policy. Possible values: "screen".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-destroy-policy

[top]

Destroys existing policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-disable

[top]

Sets options fpolicy enable to off.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-disable-policy

[top]

Disables a specific named policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ELOWMEMORY	
EPOLICYNOTFOUND	

Vfiler-enabled
Yes

fpolicy-enable

[top]

Sets options fpolicy enable to on. Events on FlexGroup volumes will not notify the FPolicy server

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-enable-policy

[top]

Enables a specific named policy. The operation will fail if the policy doesn't exist.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

sequence-number		integer	Policy Sequence Number

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ELOWMEMORY	
EPOLICYNOTFOUND	

Vfiler-enabled
Yes

fpolicy-extensions

[top]

Manipulates with list of extensions in exclude or include set. Exlude set defines extension patterns that won't trigger fpolicy processing.

Input Name	Range	Type	Description
command		string	Command to be applied on the specified set. Supported values: "add", "remove", "set", "reset".
extensions		extension-list-info[] optional	List of extensions. This element is required if the the command input value is "add", "set" or "remove".
policy-name		string	Name of the policy.
set-name		string	Defines to which set (exclude or include) a command (add, remove, etc) will be applied to. For instance, command = add, set-name = include will add specified list of extensions to the include set. Possible values: "exclude", "include".

Errno	Description
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-extensions-list-info

[top]

Returns information on existing extension sets.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description

exclude-extensions		extension-list-info[]	List of file extensions that are excluded from the file policy.
include-extensions		extension-list-info[]	List of file extensions that are included in the file policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-get-policy-options

[top]

Shows value of policy options.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
is-ads-monitored		boolean optional	Indicator if the policy monitors the cifs operations on Alternate Data Streams.
is-cifs-disconnect-check-enabled		boolean	'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise.
is-cifs-setattr-enabled		boolean	Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened.
is-required		boolean	Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed.
reqcancel-timeout		integer	Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967].
secondary-servers		secondary-server-info[]	List of server's IP addresses. Servers registered from these IP will be considered as secondary servers.
serverprogress-timeout		integer	Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967].

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-get-required-info

[top]

Shows current options for the policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
is-required		boolean	Indicator if the policy is required, i.e. will it fail if the server is not responding. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-get-secondary-servers-info

[top]

Shows current options for the policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
secondary-servers		secondary-server-info[]	List of servers' IP addresses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-list-info

[top]

Returns a list of existing policies.

Input Name	Range	Type	Description
policy-name		string optional	Name of the policy. If this parameter is set, policies will have information pertaining to the policy named. If there is no such a policy, policies will be empty.

Output Name	Range	Type	Description

policies		policy-info[]	List of policies.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-operations-list-set

[top]

Manipulate a list of operations and network protocols for a policy. This determines which user requests cause the filer to notify fpolicy servers for this policy. The list provided will replace the list currently in place, if any. Note that this can be confusing to a server which has already connected to a policy and provided a list of operations. For example, it may have requested notifications when users open files, but start receiving notifications when users create symlinks. This API is provided in support of "native file blocking" in which there is no server connected to the filer for a policy. Note that it is possible to get the list of operations and protocols currently set for a policy with the fpolicy-list-info API.

Input Name	Range	Type	Description
force		boolean optional	If a server is connected to the filer and has already set the list of operations, should this API override the server's setting? If "force" is "true", the policy's set of operations will be dropped and replaced with the values provided by this API. Default value is false.
monitored-operations		monitored-operation-info[]	List of operations related values.
monitored-protocols		monitored-protocol-info[]	List of protocol related values.
offline-only		boolean optional	Sets the state of offline filtering. If offline filtering is set, then only user requests for files which are marked "offline" cause notifications. Default value is false.
policy-name		string	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-passthrough-read-connection-get-iter

[top]

Returns passthrough-read connection status information.

Input Name	Range	Type	Description

desired-attributes		fpolicy-passthrough-read-connection-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-passthrough-read-connection-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-passthrough-read-connection object. All fpolicy-passthrough-read-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-passthrough-read-connection-info[] optional	The list of attributes of fpolicy-passthrough-read-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-passthrough-read-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ESERVERNOTFOUND	
ENODENOTFOUND	
EPOLICYNOTFOUND	

fpolicy-policy-create

[top]

Create a policy.

Input Name	Range	Type	Description
allow-privileged-access		boolean optional	Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no.
engine-name		engine-name	Name of the Engine. Default Engine is 'native'.
events		event-name[]	Events for file access monitoring.
			Indicator if the screening with this policy is required, i.e. it will fail if no

is-mandatory		boolean optional	servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true.
is-passthrough-read-enabled		boolean optional	Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false.
policy-name		policy-name	Name of the policy.
privileged-user-name		string optional	User name for privileged access. No default value is set for this attribute.
return-record		boolean optional	If set to true, returns the fpolicy-policy on successful creation. Default: false

Output Name	Range	Type	Description
result		fpolicy-policy-info optional	The fpolicy-policy created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYEXISTS	
EEVENTNOTFOUND	
EENGINENOTFOUND	
E_PASSTHRU_READ_ENABLE_IN_POLICY	
E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED	

fpolicy-policy-delete

[top]

Delete a policy.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	

fpolicy-policy-event-create

[top]

Create FPolicy Event.

Input Name	Range	Type	Description
event-name		event-name	Name of the Event.
file-operations		fpolicy-operation[] optional	Name of file operations. By default no operations are monitored. Possible values: • "close" - File close operation, • "create" - File create operation, • "create_dir" - File create directory operation, • "delete" - File delete operation, • "delete_dir" - Directory delete operation, • "getattr" - Get attribute operation, • "link" - Link operation, • "lookup" - Lookup operation, • "open" - File open operation, • "read" - File read operation, • "write" - File write operation, • "rename" - File rename operation, • "rename_dir" - Directory rename operation, • "setattr" - Set attribute operation, • "symlink" - Symbolic link operation, • "access" - Access operation
filter-string		fpolicy-filter[] optional	Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values: • "monitor_ads" - Monitor alternate data stream, • "close_with_modification" - Filter close with modification, • "close_without_modification" - Filter close without modification, • "first_read" - Filter first read, • "first_write" - Filter first write, • "offline_bit" - Filter offline bit set, • "open_with_delete_intent" - Filter open with delete intent, • "open_with_write_intent" - Filter open with write intent, • "write_with_size_change" - Filter write with size change, • "close_with_read" - Filter close with read, • "setattr_with_owner_change" - Filter file owner change, • "setattr_with_group_change" - Filter file group change, • "setattr_with_sacl_change" - Filter file sacl change, • "setattr_with_dacl_change" - Filter file dacl change, • "setattr_with_modify_time_change" - Filter file modify time change, • "setattr_with_access_time_change" - Filter file access time change, • "setattr_with_creation_time_change" - Filter file creation time change, • "setattr_with_mode_change" - Filter file mode change, • "setattr_with_size_change" - Filter file size change, • "setattr_with_allocation_size_change" - Filter allocation size change, • "exclude_directory" - Filter to exclude directory operations
monitor-fileop-failure		boolean optional	Indicator if the failed file operation notification required for the event. Default Value is false.
protocol		fpolicy-proto optional	Name of protocol for which event is created. By default no protocol is selected. Possible values: • "cifs" - CIFS protocol,

			• "nfsv3" - NFSv3 protocol, • "nfsv4" - NFSv4 protocol
return-record		boolean optional	If set to true, returns the fpolicy-policy-event on successful creation. Default: false
volume-operation		boolean optional	Indicator if the volume operation required for the event. Default Value is false.

Output Name	Range	Type	Description
result		fpolicy-event-options-config optional	The fpolicy-policy-event created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTEXISTS	

fpolicy-policy-event-delete

[top]

Delete FPolicy event.

Input Name	Range	Type	Description
event-name		event-name	Name of the Event.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTNOTFOUND	

fpolicy-policy-event-get-iter

[top]

Get a list of rows for FPolicy event options. FPolicy event is consist of protocol, file operations, vo lume operation and filters.

Input Name	Range	Type	Description
desired-attributes		fpolicy-event-options-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		fpolicy-event-	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-event

query		options-config optional	object. All fpolicy-policy-event objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-event-options-config[] optional	The list of attributes of fpolicy-policy-event objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-event objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTNOTFOUND	

fpolicy-policy-event-modify

[top]

Set FPolicy event options. FPolicy event includes consist of protocol, file operation, volume operation, f ilters and monitor failure option.

Input Name	Range	Type	Description
event-name		event-name	Name of the Event.
file-operations		fpolicy-operation[] optional	Name of file operations. By default no operations are monitored. Possible values: • "close" - File close operation, • "create" - File create operation, • "create_dir" - File create directory operation, • "delete" - File delete operation, • "delete_dir" - Directory delete operation, • "getattr" - Get attribute operation, • "link" - Link operation, • "lookup" - Lookup operation, • "open" - File open operation, • "read" - File read operation, • "write" - File write operation, • "rename" - File rename operation, • "rename_dir" - Directory rename operation, • "setattr" - Set attribute operation, • "symlink" - Symbolic link operation, • "access" - Access operation
			Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values:

filter-string		fpolicy-filter[] optional	• "monitor_ads" - Monitor alternate data stream, • "close_with_modification" - Filter close with modification, • "close_without_modification" - Filter close without modification, • "first_read" - Filter first read, • "first_write" - Filter first write, • "offline_bit" - Filter offline bit set, • "open_with_delete_intent" - Filter open with delete intent, • "open_with_write_intent" - Filter open with write intent, • "write_with_size_change" - Filter write with size change, • "close_with_read" - Filter close with read, • "setattr_with_owner_change" - Filter file owner change, • "setattr_with_group_change" - Filter file group change, • "setattr_with_sacl_change" - Filter file sacl change, • "setattr_with_dacl_change" - Filter file dacl change, • "setattr_with_modify_time_change" - Filter file modify time change, • "setattr_with_access_time_change" - Filter file access time change, • "setattr_with_creation_time_change" - Filter file creation time change, • "setattr_with_mode_change" - Filter file mode change, • "setattr_with_size_change" - Filter file size change, • "setattr_with_allocation_size_change" - Filter allocation size change, • "exclude_directory" - Filter to exclude directory operations
monitor-fileop-failure		boolean optional	Indicator if the failed file operation notification required for the event. Default Value is false.
protocol		fpolicy-proto optional	Name of protocol for which event is created. By default no protocol is selected. Possible values: • "cifs" - CIFS protocol, • "nfsv3" - NFSv3 protocol, • "nfsv4" - NFSv4 protocol
volume-operation		boolean optional	Indicator if the volume operation required for the event. Default Value is false.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTNOTFOUND	

fpolicy-policy-external-engine-create

[top]

Create an external engine.

Input Name	Range	Type	Description
certificate-ca		string optional	Certificate authority name. No default value is set for this field.
certificate-common-		common-name	FQDN or custom common name of certificate. No default value is

name		optional	set for this field.
certificate-serial		string optional	Serial number of certificate. No default value is set for this field.
engine-name		engine-name	Name of the external engine.
extern-engine-format		external-engine-format optional	External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values: • "xml" - XML Format, • "protobuf" - Protobuf Format
extern-engine-type		external-engine-type optional	External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values: • "synchronous" - Synchronous External Engine, • "asynchronous" - Asynchronous External Engine
is-resiliency-enabled		boolean optional	Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false.
keep-alive-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds.
max-connection-retries	**[0..2^32-1]**	integer optional	Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5.
max-server-requests	**[0..2^32-1]**	integer optional	Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50.
port-number	**[1..65535]**	integer	Port number of the FPolicy server application.
primary-servers		ip-address[]	Primary FPolicy servers.
recv-buffer-size	**[0..2^32-1]**	integer optional	Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
request-abort-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds.
request-cancel-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds.
resiliency-directory-path		string optional	Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications.
resiliency-max-retention-duration		time-interval optional	Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds.
return-record		boolean optional	If set to true, returns the fpolicy-policy-external-engine on successful creation. Default: false

secondary-servers		ip-address[] optional	Secondary FPolicy servers. No default value is set for this field.
send-buffer-size	**[0..2^32-1]**	integer optional	Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
server-progress-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds.
session-timeout		time-interval optional	Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds.
ssl-option		fpolicy-ssl-opts	SSL option for external communication. No default value is set for this field. Possible values: • "no_auth" - Communication over TCP, • "server_auth" - Authentication of FPolicy server only, • "mutual_auth" - Mutual authentication of storage system and FPolicy server
status-request-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds.

Output Name	Range	Type	Description
result		fpolicy-external-engine-info optional	The fpolicy-policy-external-engine created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINEEXISTS	
ESERVEREXISTS	

fpolicy-policy-external-engine-delete

[top]

Delete an external engine.

Input Name	Range	Type	Description
engine-name		engine-name	Name of the external engine.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINENOTFOUND	
EPOLICYNOTFOUND	

Errno	Description
ERESOURCEINUSE	

fpolicy-policy-external-engine-get-iter

[top]

Returns information on external engines.

Input Name	Range	Type	Description
desired-attributes		fpolicy-external-engine-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-external-engine-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-external-engine object. All fpolicy-policy-external-engine objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-external-engine-info[] optional	The list of attributes of fpolicy-policy-external-engine objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-external-engine objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINENOTFOUND	

fpolicy-policy-external-engine-modify

[top]

Modify an external engine. External engine can be modified only when none of the enabled policies are using it.

Input Name	Range	Type	Description
certificate-ca		string optional	Certificate authority name. No default value is set for this field.

certificate-common-name		common-name optional	FQDN or custom common name of certificate. No default value is set for this field.
certificate-serial		string optional	Serial number of certificate. No default value is set for this field.
engine-name		engine-name	Name of the external engine.
extern-engine-format		external-engine-format optional	External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values: • "xml" - XML Format, • "protobuf" - Protobuf Format
extern-engine-type		external-engine-type optional	External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values: • "synchronous" - Synchronous External Engine, • "asynchronous" - Asynchronous External Engine
is-resiliency-enabled		boolean optional	Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false.
keep-alive-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds.
max-connection-retries	**[0..2^32-1]**	integer optional	Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5.
max-server-requests	**[0..2^32-1]**	integer optional	Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50.
port-number	**[1..65535]**	integer optional	Port number of the FPolicy server application.
primary-servers		ip-address[] optional	Primary FPolicy servers.
recv-buffer-size	**[0..2^32-1]**	integer optional	Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
request-abort-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds.
request-cancel-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds.
resiliency-directory-path		string optional	Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications.
resiliency-max-		time-interval	Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be

retention-duration		optional	stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds.
secondary-servers		ip-address[] optional	Secondary FPolicy servers. No default value is set for this field.
send-buffer-size	**[0..2^32-1]**	integer optional	Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
server-progress-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds.
session-timeout		time-interval optional	Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds.
ssl-option		fpolicy-ssl-opts optional	SSL option for external communication. No default value is set for this field. Possible values: • "no_auth" - Communication over TCP, • "server_auth" - Authentication of FPolicy server only, • "mutual_auth" - Mutual authentication of storage system and FPolicy server
status-request-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINENOTFOUND	
E_FPOLICY_EXT_ENG_MODIFY_FAILED_ENABLED_POLICY	
E_PASSTHRU_READ_MODIFY_EXT_ENGINE	
ESERVEREXISTS	

fpolicy-policy-get-iter

[top]

Returns information about policies.

Input Name	Range	Type	Description
desired-attributes		fpolicy-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy object. All fpolicy-policy objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-policy-info[] optional	The list of attributes of fpolicy-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	

fpolicy-policy-modify

[top]

Modify a policy.

Input Name	Range	Type	Description
allow-privileged-access		boolean optional	Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no.
engine-name		engine-name optional	Name of the Engine. Default Engine is 'native'.
events		event-name[] optional	Events for file access monitoring.
is-mandatory		boolean optional	Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true.
is-passthrough-read-enabled		boolean optional	Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false.
policy-name		policy-name	Name of the policy.
privileged-user-name		string optional	User name for privileged access. No default value is set for this attribute.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	
E_PASSTHRU_READ_ENABLE_IN_POLICY	

E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED	

fpolicy-policy-scope-create

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

Input Name	Range	Type	Description
check-extensions-on-directories		boolean optional	Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise.
export-policies-to-exclude		string[] optional	Export Policies to exclude for file access monitoring. By default no export policy is selected.
export-policies-to-include		string[] optional	Export policies to include for file access monitoring. By default no export policy is selected.
file-extensions-to-exclude		string[] optional	File extensions excluded for screening. By default no file extension is selected.
file-extensions-to-include		string[] optional	File extensions included for screening. By default no file extension is selected.
is-monitoring-of-objects-with-no-extension-enabled		boolean optional	Indicates whether monitoring of Objects with no extension is required. By default, the value is false.
policy-name		policy-name	Name of the policy.
return-record		boolean optional	If set to true, returns the fpolicy-policy-scope on successful creation. Default: false
shares-to-exclude		string[] optional	Shares to exclude for file access monitoring. By default no share is selected.
shares-to-include		string[] optional	Shares to include for file access monitoring. By default no share is selected.
volumes-to-exclude		string[] optional	Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected.
volumes-to-include		string[] optional	Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected.

Output Name	Range	Type	Description
result		fpolicy-scope-config optional	The fpolicy-policy-scope created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ESCOPEEXISTS	

fpolicy-policy-scope-delete

[top]

Delete a scope.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.

Errno	Description
ESCOPENOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

fpolicy-policy-scope-get-iter

[top]

Get a list of rows for FPolicy scope options. FPolicy Scope consists of share, volume, export policy, volume, file extention.

Input Name	Range	Type	Description
desired-attributes		fpolicy-scope-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-scope-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-scope object. All fpolicy-policy-scope objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-scope-config[] optional	The list of attributes of fpolicy-policy-scope objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-scope objects to return.
num-records	[0..2^32-	integer	The number of records returned in this call.

	1]		

Errno	Description
ESCOPENOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

fpolicy-policy-scope-modify

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

Input Name	Range	Type	Description
check-extensions-on-directories		boolean optional	Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise.
export-policies-to-exclude		string[] optional	Export Policies to exclude for file access monitoring. By default no export policy is selected.
export-policies-to-include		string[] optional	Export policies to include for file access monitoring. By default no export policy is selected.
file-extensions-to-exclude		string[] optional	File extensions excluded for screening. By default no file extension is selected.
file-extensions-to-include		string[] optional	File extensions included for screening. By default no file extension is selected.
is-monitoring-of-objects-with-no-extension-enabled		boolean optional	Indicates whether monitoring of Objects with no extension is required. By default, the value is false.
policy-name		policy-name	Name of the policy.
shares-to-exclude		string[] optional	Shares to exclude for file access monitoring. By default no share is selected.
shares-to-include		string[] optional	Shares to include for file access monitoring. By default no share is selected.
volumes-to-exclude		string[] optional	Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected.
volumes-to-include		string[] optional	Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected.

Errno	Description

ESCOPENOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

fpolicy-policy-status-get-iter

[top]

Returns FPolicy policy status information.

Input Name	Range	Type	Description
desired-attributes		fpolicy-policy-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-policy-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-status object. All fpolicy-policy-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-policy-status-info[] optional	The list of attributes of fpolicy-policy-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	

fpolicy-server-connect

[top]

Make a connection to FPolicy server

Input Name	Range	Type	Description

node		string	Cluster node name.
policy-name		policy-name	Name of the policy.
server		ip-address	FPolicy server.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	
ESERVERNOTFOUND	
E_POLICY_DISABLED	

fpolicy-server-disconnect

[top]

Terminate connection to FPolicy server

Input Name	Range	Type	Description
node		string	Cluster node name.
policy-name		policy-name	Name of the policy.
server		ip-address	FPolicy server.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	
ESERVERNOTFOUND	
E_POLICY_DISABLED	

fpolicy-server-list-info

[top]

Shows a list of primary servers serving the policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
servers		server-info[]	List of the servers' IP addresses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled

Yes

fpolicy-server-status-get-iter

[top]

Returns FPolicy server status information.

Input Name	Range	Type	Description
desired-attributes		fpolicy-server-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-server-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-server-status object. All fpolicy-server-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-server-status-info[] optional	The list of attributes of fpolicy-server-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-server-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ESERVERNOTFOUND	
ENODENOTFOUND	
EPOLICYNOTFOUND	

fpolicy-server-stop

[top]

Stops specific primary server serving the policy. Effectively, this will unregister the fpolicy server.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

server-ip		ip-address	The ip address, in dotted-decimal format, of the server.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-set-policy-options

[top]

Sets policy's options to on/off.

Input Name	Range	Type	Description
is-ads-monitored		boolean optional	Indicates if the policy monitors the cifs operations on Alternate Data Streams. Default is false.
is-cifs-disconnect-check-enabled		boolean optional	'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise.
is-cifs-setattr-enabled		boolean optional	Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened. Default is false.
is-required		boolean optional	Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default is false.
policy-name		string	Name of the policy.
reqcancel-timeout		integer optional	Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967].
secondary-servers		secondary-server-info[] optional	List of server's IP addresses. Servers registered from these IP will be considered as secondary servers.
serverprogress-timeout		integer optional	Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967].

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-set-required

[top]

Sets policy's "required" option to on/off.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.
required		boolean	Indicator if the policy is required. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-set-secondary-servers

[top]

Sets secondary servers information in a form of a list of ip addresses. These servers will be used if all primary servers are not available, thus increasing system availabilty.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.
secondary-servers		secondary-server-info[]	List of servers' IP addresses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-status

[top]

Returns status of options fpolicy enable.

Output Name	Range	Type	Description
is-enabled		boolean	Shows if the fpolicy mechanism is enabled or not.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-volume-list-info

[top]

Returns a volume-regular-expression list for an exclude or include set. The list describes limits to the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
exclude-volumes		fpolicy-volumes-list-info[]	List of volumes that are inactive for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?". Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests.
include-volumes		fpolicy-volumes-list-info[]	List of volumes that are active for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-volume-list-set

[top]

Manipulate a list of volumes in an exclude or include set. This limits the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy. The list provided will replace the list currently in place, if any. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer.

Input Name	Range	Type	Description
list-type		string	Defines to which set (exclude or include) a list will be applied. Possible values: "exclude", "include".
policy-name		string	Name of the policy.
volumes		fpolicy-volumes-list-info[]	List of volume specifications.

Errno	Description
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EINTERNALERROR	

Vfiler-enabled
Yes

[top]

Element definition: **common-name**

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **engine-name** [top]

Engine name

[none]

Element definition: **event-name** [top]

Event name

[none]

Element definition: **extension-list-info** [top]

Structure containing extension information.

Name	Range	Type	Description
name-spec		string	Extension specification (including wild cards). Allowed are only DOS like, three character long extensions. The extensions are case insensitive. Supported wild card values: "???" to match any extension and "?" to match any character. Examples of allowed extension specifications: EXE ??? ?XT P??

Element definition: **external-engine-format** [top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

Element definition: **external-engine-type** [top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

Element definition: **fpolicy-event-options-config**

[top]

Vserver FPolicy Event configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event-name		event-name optional	Name of the Event. Attributes: key, required-for-create, non-modifiable
file-operations		fpolicy-operation[] optional	Name of file operations. By default no operations are monitored. Attributes: optional-for-create, modifiable Possible values: • "close" - File close operation, • "create" - File create operation, • "create_dir" - File create directory operation, • "delete" - File delete operation, • "delete_dir" - Directory delete operation, • "getattr" - Get attribute operation, • "link" - Link operation, • "lookup" - Lookup operation, • "open" - File open operation, • "read" - File read operation, • "write" - File write operation, • "rename" - File rename operation, • "rename_dir" - Directory rename operation, • "setattr" - Set attribute operation, • "symlink" - Symbolic link operation, • "access" - Access operation
			Name of filters. It is notification filtering parameters. By default no filters are selected. Attributes: optional-for-create, modifiable Possible values: • "monitor_ads" - Monitor alternate data stream, • "close_with_modification" - Filter close with modification, • "close_without_modification" - Filter close without modification, • "first_read" - Filter first read, • "first_write" - Filter first write, • "offline_bit" - Filter offline bit set, • "open_with_delete_intent" - Filter open with delete intent,

filter-string		fpolicy-filter[] optional	• "open_with_write_intent" - Filter open with write intent, • "write_with_size_change" - Filter write with size change, • "close_with_read" - Filter close with read, • "setattr_with_owner_change" - Filter file owner change, • "setattr_with_group_change" - Filter file group change, • "setattr_with_sacl_change" - Filter file sacl change, • "setattr_with_dacl_change" - Filter file dacl change, • "setattr_with_modify_time_change" - Filter file modify time change, • "setattr_with_access_time_change" - Filter file access time change, • "setattr_with_creation_time_change" - Filter file creation time change, • "setattr_with_mode_change" - Filter file mode change, • "setattr_with_size_change" - Filter file size change, • "setattr_with_allocation_size_change" - Filter allocation size change, • "exclude_directory" - Filter to exclude directory operations
monitor-fileop-failure		boolean optional	Indicator if the failed file operation notification required for the event. Default Value is false. Attributes: optional-for-create, modifiable
protocol		fpolicy-proto optional	Name of protocol for which event is created. By default no protocol is selected. Attributes: optional-for-create, modifiable Possible values: • "cifs" - CIFS protocol, • "nfsv3" - NFSv3 protocol, • "nfsv4" - NFSv4 protocol
volume-operation		boolean optional	Indicator if the volume operation required for the event. Default Value is false. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-external-engine-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-ca		string optional	Certificate authority name. No default value is set for this field. Attributes: optional-for-create, modifiable
certificate-common-name		common-name optional	FQDN or custom common name of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable
certificate-serial		string optional	Serial number of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable

engine-name		engine-name optional	Name of the external engine. Attributes: key, required-for-create, non-modifiable
extern-engine-format		external-engine-format optional	External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Attributes: optional-for-create, modifiable Possible values: • "xml" - XML Format, • "protobuf" - Protobuf Format
extern-engine-type		external-engine-type optional	External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Attributes: optional-for-create, modifiable Possible values: • "synchronous" - Synchronous External Engine, • "asynchronous" - Asynchronous External Engine
is-resiliency-enabled		boolean optional	Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. Attributes: optional-for-create, modifiable
keep-alive-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable
max-connection-retries	**[0..2^32-1]**	integer optional	Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. Attributes: optional-for-create, modifiable
max-server-requests	**[0..2^32-1]**	integer optional	Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. Attributes: optional-for-create, modifiable
port-number	**[1..65535]**	integer optional	Port number of the FPolicy server application. Attributes: required-for-create, modifiable
primary-servers		ip-address[] optional	Primary FPolicy servers. Attributes: required-for-create, modifiable
recv-buffer-size	**[0..2^32-1]**	integer optional	Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable
request-abort-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. Attributes: optional-for-create, modifiable
request-cancel-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. Attributes: optional-for-create, modifiable
resiliency-directory-path		string optional	Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. Attributes: optional-for-create, modifiable
resiliency-max-		time-interval	Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum

retention-duration		optional	retention duration can be 600 seconds. Attributes: optional-for-create, modifiable
secondary-servers		ip-address[] optional	Secondary FPolicy servers. No default value is set for this field. Attributes: optional-for-create, modifiable
send-buffer-size	**[0..2^32-1]**	integer optional	Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable
server-progress-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds. Attributes: optional-for-create, modifiable
session-timeout		time-interval optional	Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable
ssl-option		fpolicy-ssl-opts optional	SSL option for external communication. No default value is set for this field. Attributes: required-for-create, modifiable Possible values: • "no_auth" - Communication over TCP, • "server_auth" - Authentication of FPolicy server only, • "mutual_auth" - Mutual authentication of storage system and FPolicy server
status-request-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-filter**

[top]

Filter Possible values:

- "monitor_ads" - Monitor alternate data stream,
- "close_with_modification" - Filter close with modification,
- "close_without_modification" - Filter close without modification,
- "first_read" - Filter first read,
- "first_write" - Filter first write,
- "offline_bit" - Filter offline bit set,
- "open_with_delete_intent" - Filter open with delete intent,
- "open_with_write_intent" - Filter open with write intent,
- "write_with_size_change" - Filter write with size change,
- "close_with_read" - Filter close with read,
- "setattr_with_owner_change" - Filter file owner change,
- "setattr_with_group_change" - Filter file group change,
- "setattr_with_sacl_change" - Filter file sacl change,
- "setattr_with_dacl_change" - Filter file dacl change,
- "setattr_with_modify_time_change" - Filter file modify time change,
- "setattr_with_access_time_change" - Filter file access time change,
- "setattr_with_creation_time_change" - Filter file creation time change,
- "setattr_with_mode_change" - Filter file mode change,
- "setattr_with_size_change" - Filter file size change,
- "setattr_with_allocation_size_change" - Filter allocation size change,

- "exclude_directory" - Filter to exclude directory operations

[none]

Element definition: **fpolicy-operation**

[top]

File Operation Possible values:

- "close" - File close operation,
- "create" - File create operation,
- "create_dir" - File create directory operation,
- "delete" - File delete operation,
- "delete_dir" - Directory delete operation,
- "getattr" - Get attribute operation,
- "link" - Link operation,
- "lookup" - Lookup operation,
- "open" - File open operation,
- "read" - File read operation,
- "write" - File write operation,
- "rename" - File rename operation,
- "rename_dir" - Directory rename operation,
- "setattr" - Set attribute operation,
- "symlink" - Symbolic link operation,
- "access" - Access operation

[none]

Element definition: **fpolicy-passthrough-read-connection-info**

[top]

FPolicy passthrough-read connection status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connected-since		datetime optional	Date and time since passthrough-read channel is connected. This will be returned only if the server-status is connected. Attributes: non-creatable, non-modifiable
control-session-id		string optional	Session ID of the control channel established with FPolicy server. Attributes: key, non-creatable, non-modifiable
			Reason for passthrough-read channel disconnection. Attributes: non-creatable, non-modifiable Possible values: • "none" - Not applicable, • "control_conn_closed" - Control connection to the FPOlicy

disconnect-reason		fpolicy-passthru-disconnect-reason optional	server is closed, • "pipe_client_close" - Connection closed by pipe client (FPolicy server), • "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc., • "no_control_packet" - No control packet seen on this connection, • "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip, • "fpolicy_process_restart" - FPolicy process has restarted
disconnected-since		datetime optional	Date and time since passthrough-read channel is disconnected. This will be returned only if the server-status is disconnected. Attributes: non-creatable, non-modifiable
fpolicy-server		ip-address optional	IP Address of the FPolicy server. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
policy-name		policy-name optional	Policy name of the policy for which passthrough-read connection is opened. Attributes: key, non-creatable, non-modifiable
server-status		fpolicy-passthru-conn-status optional	Status of the passthrough-read connection. Attributes: non-creatable, non-modifiable Possible values: • "connected" - Passthrough read channel connected, • "disconnected" - Passtthrough read channel disconnected
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-policy-info**

[top]

FPolicy policy information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allow-privileged-access		boolean optional	Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. Attributes: optional-for-create, modifiable
engine-name		engine-name optional	Name of the Engine. Default Engine is 'native'. Attributes: required-for-create, modifiable
events		event-name[] optional	Events for file access monitoring. Attributes: required-for-create, modifiable
		boolean	Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external

is-mandatory		optional	engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. Attributes: optional-for-create, modifiable
is-passthrough-read-enabled		boolean optional	Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. Attributes: optional-for-create, modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, required-for-create, non-modifiable
privileged-user-name		string optional	User name for privileged access. No default value is set for this attribute. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-policy-status-info**

[top]

FPolicy Policy status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
policy-name		policy-name optional	Name of the policy. Attributes: key, non-creatable, non-modifiable
sequence-number	**[1..10]**	integer optional	Sequence number(or priority) of the policy. 1 being highest and 10 being smallest. Default value is 1. Attributes: non-creatable, non-modifiable
status		boolean optional	Status of the policy. When on, policy is active. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-proto**

[top]

Protocol Possible values:

- "cifs" - CIFS protocol,
- "nfsv3" - NFSv3 protocol,
- "nfsv4" - NFSv4 protocol

[none]

Element definition: **fpolicy-scope-config**

[top]

Vserver FPolicy Scope configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
check-extensions-on-directories		boolean optional	Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. Attributes: optional-for-create, modifiable
export-policies-to-exclude		string[] optional	Export Policies to exclude for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable
export-policies-to-include		string[] optional	Export policies to include for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable
file-extensions-to-exclude		string[] optional	File extensions excluded for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable
file-extensions-to-include		string[] optional	File extensions included for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable
is-monitoring-of-objects-with-no-extension-enabled		boolean optional	Indicates whether monitoring of Objects with no extension is required. By default, the value is false. Attributes: optional-for-create, modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, required-for-create, non-modifiable
shares-to-exclude		string[] optional	Shares to exclude for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable
shares-to-include		string[] optional	Shares to include for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable
volumes-to-exclude		string[] optional	Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. Attributes: optional-for-create, modifiable
volumes-to-include		string[] optional	Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-server-status-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connected-since		datetime optional	Date and time since FPolicy server is connected. Attributes: non-creatable, non-modifiable
disconnect-reason		string optional	Reason for FPolicy server disconnection. Attributes: non-creatable, non-modifiable
disconnected-since		datetime optional	Date and time since FPolicy server is disconnected. Attributes: non-creatable, non-modifiable
fpolicy-server		ip-address optional	FPolicy server. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Cluster node name. Attributes: key, non-creatable, non-modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, non-creatable, non-modifiable
server-status		fpolicy-server-status optional	Status of the connection. Attributes: non-creatable, non-modifiable Possible values: • "connected" - Server Connected, • "disconnected" - Server Disconnected, • "connecting" - Connecting Server, • "disconnecting" - Disconnecting Server
server-type		fpolicy-server-type optional	FPolicy server type. FPolicy server can be registered as primary or secondary server. Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary Server, • "secondary" - Secondary Server
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-ssl-opts**

[top]

no-auth|server-auth|mutual-auth Possible values:

- "no_auth" - Communication over TCP,

"server_auth" - Authentication of FPolicy server only,
- "mutual_auth" - Mutual authentication of storage system and FPolicy server

[none]

Element definition: **fpolicy-volumes-list-info**

[top]

Structure containing volumes information.

Name	Range	Type	Description
volume-spec		string	Volume specification (including wild cards). The volumes are case insensitive. If no volume-spec is provided, then the list will be reset to an empty list. Supported wild card values: "?" to match any character and "*" to match any number of characters. Example specifications: vol0 vol? users*

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

Name	Range	Type	Description
operation		string	Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink"

Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

Name	Range	Type	Description
protocol		string	Supported values: "nfs", "cifs".

Element definition: **policy-info**

[top]

Structure containing information pertaining to policy.

Name	Range	Type	Description
is-ads-monitored		boolean	True if the policy monitors the cifs operations on Alternate Data Streams.
is-enabled		boolean	True if the policy is enabled. No matter whether the policy is enabled or disabled, values returned in other elements for the policy are always valid.
is-i2p-enabled		boolean	True if inode to pathname translation for NFS requests is supported and enabled.If enabled fpolicy requests to fpolicy server will carry full file path for NFS requests. The fields which will carry full file path are AccessPath and RenamePath for FP_ScreenRequest RPC call and sr_accesspath for FP_ScreenRequest2 RPC call.
is-offline-files-only		boolean optional	True if the file policy monitors only offlines files. Default is false.
monitored-operations		monitored-operation-info[]	List of monitored operations.
monitored-protocols		monitored-protocol-info[]	List of monitored protocols.
name		string	Policy name.
number-of-requests-blocked-locally		integer	Number of locally blocked(denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1].
number-of-screen-failures		integer	Number of failed (denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1].
number-of-screened-files		integer	Number of screened files since policy has been enabled. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1].

Element definition: **policy-name**

[top]

Policy name

[none]

Element definition: **secondary-server-info**

[top]

Structure containing information pertaining to secondary servers.

Name	Range	Type	Description
server-ip		ip-address	The ip address, in dotted-decimal format, of the server.

Element definition: **server-info**

[top]

Structure containing information pertaining to servers.

Name	Range	Type	Description
idl-version		integer	Version of the Interface Definition Language(IDL) used by the Fpolicy server. Range : [0..2^32-1].
is-asynchronous		boolean optional	Shows if the server is registered as asynchronous, i.e. doesn't send reply to the filer.
is-size-and-owner-required		boolean optional	True if the server is registered to receive file size and file owner information with every Fpolicy request.
is-snapid-required		boolean optional	True if the server is registered to receive file snapshot ID with every Fpolicy request.
is-version2		boolean optional	True if the server is registered with version2 support enabled. version2 refers to the version of the FP_ScreenRequest(). When version2 is true the FPolicy server is enabled to receive FP_ScreenRequest2() RPC.
number-of-screen-failures		integer	Number of failed (denied) screens since server registrations. Range : [0..2^32-1].
number-of-screened-files		integer	Number of screened files since server registration. Range : [0..2^32-1].
offline-filter-bit		string optional	Shows the setting of offline filter. Supported values: "none", "on-set".
server-id		integer	The unique server ID assigned to the Fpolicy server at the time of Fpolicy server registration. Range : [0..2^32-1].
server-ip		ip-address	The ip address, in dotted-decimal format, of the server.
smb-req-pipe-name		string	The name of the FPolicy request pipe name on which FPolicy server is recieving the screen requests from the storage system. This name is sent by the FPolicy server at the time of the FPolicy server registration.

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **engine-name** [top]

Engine name

[none]

Element definition: **event-name** [top]

Event name

[none]

Element definition: **external-engine-format** [top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

Element definition: **external-engine-type** [top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

Element definition: **fpolicy-passthru-conn-status** [top]

Status of fpolicy passthrough-read connection Possible values:

- "connected" - Passthrough read channel connected,
- "disconnected" - Passtthrough read channel disconnected

[none]

Element definition: **fpolicy-passthru-disconnect-reason**

[top]

Reason for fpolicy passthrough-read disconnection Possible values:

- "none" - Not applicable,
- "control_conn_closed" - Control connection to the FPOlicy server is closed,
- "pipe_client_close" - Connection closed by pipe client (FPolicy server),
- "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc.,
- "no_control_packet" - No control packet seen on this connection,
- "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip,
- "fpolicy_process_restart" - FPolicy process has restarted

[none]

Element definition: **fpolicy-server-status**

[top]

Status Possible values:

- "connected" - Server Connected,
- "disconnected" - Server Disconnected,
- "connecting" - Connecting Server,
- "disconnecting" - Disconnecting Server

[none]

Element definition: **fpolicy-server-type**

[top]

Server Type Possible values:

- "primary" - Primary Server,
- "secondary" - Secondary Server

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

Name	Range	Type	Description
operation		string	Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink"

Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

Name	Range	Type	Description
protocol		string	Supported values: "nfs", "cifs".

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **gpo**

gpo-applied-info-get-iter
gpo-get-iter
gpo-gpresult-info-get-iter
gpo-modify
gpo-restricted-group-applied-info-get-iter
gpo-restricted-group-defined-info-get-iter
gpo-update

Group Policy Object (GPO) configuration APIs. Group Policy is a central component of Microsoft's change and configuration strategy for Win2K. With Group Policy, you can define users' environments and system configurations from one location. It is implemented by associating a Group Policy Object (GPO) with an Active Directory container. A GPO is a collection of attribute settings that govern a user or a computer's configuration. These APIs enable user to obtain the values associated with the following GPO entities:

1. Vserver GPO gpresult Information: The resultant GPO information. This api displays RSoP(Resultant Set of Policy) that is defined on Active Directory for a CIFS-enabled VServer.

2. Vserver Applied GPO Information: The applied GPO Information. This api displays the set of GPO policy that has been applied on a CIFS-enabled Vserver.

gpo-applied-info-get-iter

[top]

Get the list of entries of the applied GPO rules, organized on a per-Vserver basis.

Input Name	Range	Type	Description
desired-attributes		gpo-applied-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-applied-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-applied-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description

EINTERNALERROR	

gpo-get-iter

[top]

Retrieve the Vserver's group policy configuration.

Input Name	Range	Type	Description
desired-attributes		gpo-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-config[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

gpo-gpresult-info-get-iter

[top]

Get a list of entries of the GPO RSoP(Resultant Set of Policy) data, organized on a per-Vserver basis.

Input Name	Range	Type	Description
desired-attributes		gpo-gpresult-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-gpresult-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-gpresult-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

gpo-modify

[top]

Change the Vserver's group policy configuration.

Input Name	Range	Type	Description
is-gpo-enabled		true-false	Group Policy Zapi Status.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

gpo-restricted-group-applied-info-get-iter

[top]

Applied Restricted Group Settings

Input Name	Range	Type	Description
desired-attributes		gpo-restricted-group-applied-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-restricted-group-applied-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.

		optional	
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-restricted-group-applied-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

gpo-restricted-group-defined-info-get-iter

[top]

Defined Restricted Group Settings in DC

Input Name	Range	Type	Description
desired-attributes		gpo-restricted-group-defined-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-restricted-group-defined-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-restricted-group-defined-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

gpo-update

[top]

Download and apply the latest version of the group policy defined in Active Directory.

Input Name	Range	Type	Description
force-reapply-all-settings		boolean optional	Ignores all processing optimizations and re-applies all settings.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

Element definition: **gpo-applied-info**

[top]

GPO information that is currently applied on a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adv-audit-cap-staging		string optional	This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current central access policy. Default: No Auditing Attributes: non-

			creatable, non-modifiable
cap-list		string[] optional	List of Central Access Policies. Attributes: non-creatable, non-modifiable
dspath		string optional	LDAP DN path. Attributes: non-creatable, non-modifiable
extension		string[] optional	List of the GPO extensions. Attributes: non-creatable, non-modifiable
filesyspath		string optional	File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable
gpo-index	**[0..2^32-1]**	integer optional	The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable
gpo-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
gpo-status		string optional	GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable
gpo-uuid		string optional	GPO name in UUID format. Attributes: non-creatable, non-modifiable
link		string optional	Type of the GPO. Attributes: non-creatable, non-modifiable
registry-hash-publication-mode		string optional	Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable
registry-hash-version		string optional	Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable
registry-refresh-interval	**[0..2^32-1]**	integer optional	Registry refreshint time interval. Attributes: non-creatable, non-modifiable
registry-refresh-random-offset	**[0..2^32-1]**	integer optional	Registry refreshing time random offset. Attributes: non-creatable, non-modifiable
security-audit-log-ret-method		string optional	Security log retention method. Attributes: non-creatable, non-modifiable
security-audit-logon-events		string optional	Log-on events to be audited. Attributes: non-creatable, non-modifiable
security-audit-max-log-size	**[0..2^32-1]**	integer optional	Maximum size of security log. Attributes: non-creatable, non-modifiable
security-audit-object-access		string optional	Object access to be audited. Attributes: non-creatable, non-modifiable
security-file-security		gpo-file-security-path[] optional	List of files or directories for which file security is applied. Attributes: non-creatable, non-modifiable
security-kerberos-clock-skew	**[0..2^32-1]**	integer optional	Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable
security-kerberos-	**[0..2^32-**	integer	Kerberos maximum lifetime for user ticket renewal. Attributes:

renewal-age	**1]**	optional	non-creatable, non-modifiable
security-kerberos-ticket-age	**[0..2^32-1]**	integer optional	Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable
security-privilege-rights-change-notify		gpo-user-group[] optional	List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable
security-privilege-rights-security		gpo-user-group[] optional	List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable
security-privilege-rights-take-ownership		gpo-user-group[] optional	List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable
security-registry-signing-required		boolean optional	SMB Signing Required Attributes: non-creatable, non-modifiable
security-restrict-anon-combined-restriction-for-anonymous-user		anonymous-restriction-level optional	Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values: • "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
security-restrict-anon-no-access		boolean optional	Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam		boolean optional	Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam-share		boolean optional	Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restricted-groups		gpo-user-group[] optional	List of Restricted groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	The individual GPO's update version. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver display name. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-config**

[top]

Group Policy configuration for Vservers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-gpo-enabled		true-false optional	Group Policy Zapi Status. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this group-policy. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-gpresult-info**

[top]

GPO RSoP(Resultant Set of Policy) that is currently defined on the Active Directory for a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adv-audit-cap-staging		string optional	This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current

			central access policy. Default: No Auditing Attributes: non-creatable, non-modifiable
cap-list		string[] optional	List of Central Access Policies. Attributes: non-creatable, non-modifiable
dspath		string optional	LDAP DN path. Attributes: non-creatable, non-modifiable
extension		string[] optional	List of the GPO extensions. Attributes: non-creatable, non-modifiable
filesyspath		string optional	File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable
gpo-index	**[0..2^32-1]**	integer optional	The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable
gpo-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
gpo-status		string optional	GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable
gpo-uuid		string optional	GPO name in UUID format. Attributes: non-creatable, non-modifiable
link		string optional	Type of the GPO. Attributes: non-creatable, non-modifiable
registry-hash-publication-mode		string optional	Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable
registry-hash-version		string optional	Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable
registry-refresh-interval	**[0..2^32-1]**	integer optional	Registry refreshint time interval. Attributes: non-creatable, non-modifiable
registry-refresh-random-offset	**[0..2^32-1]**	integer optional	Registry refreshing time random offset. Attributes: non-creatable, non-modifiable
security-audit-log-ret-method		string optional	Security log retention method. Attributes: non-creatable, non-modifiable
security-audit-logon-events		string optional	Log-on events to be audited. Attributes: non-creatable, non-modifiable
security-audit-max-log-size	**[0..2^32-1]**	integer optional	Maximum size of security log in kbytes. Attributes: non-creatable, non-modifiable
security-audit-object-access		string optional	Object access to be audited. Attributes: non-creatable, non-modifiable
security-file-security		gpo-file-security-path[] optional	List of files or directories for which file security is to be applied. Attributes: non-creatable, non-modifiable
security-kerberos-clock-skew	**[0..2^32-1]**	integer optional	Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable
security-			

kerberos-renewal-age	**[0..2^32-1]**	integer optional	Kerberos maximum lifetime for user ticket renewal. Attributes: non-creatable, non-modifiable
security-kerberos-ticket-age	**[0..2^32-1]**	integer optional	Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable
security-privilege-rights-change-notify		gpo-user-group[] optional	List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable
security-privilege-rights-security		gpo-user-group[] optional	List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable
security-privilege-rights-take-ownership		gpo-user-group[] optional	List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable
security-registry-signing-required		boolean optional	SMB Signing Required Attributes: non-creatable, non-modifiable
security-restrict-anon-combined-restriction-for-anonymous-user		anonymous-restriction-level optional	Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values: • "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
security-restrict-anon-no-access		boolean optional	Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam		boolean optional	Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam-share		boolean optional	Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restricted-groups		gpo-user-group[] optional	List of Restricted groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	The individual GPO's update version. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver display name. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-restricted-group-applied-info**

[top]

Applied Restricted Group Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		string optional	Group name associated with GPO group-policy-name. Attributes: key, non-creatable, non-modifiable
group-policy-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
link-type		string optional	GPO link type. Attributes: non-creatable, non-modifiable
member-of		gpo-user-group[] optional	Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable
members		gpo-user-group[] optional	Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	GPO version. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-restricted-group-defined-info**

[top]

Defined Restricted Group Settings in DC When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		string optional	Group name associated with GPO group-policy-name. Attributes: non-creatable, non-modifiable

group-policy-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
link-type		string optional	GPO link type. Attributes: non-creatable, non-modifiable
member-of		gpo-user-group[] optional	Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable
members		gpo-user-group[] optional	Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	GPO version. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable

Element definition: **true-false**

[top]

True/False

[none]

Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

Element definition: **gpo-file-security-path**

[top]

A group policy file security path string.

[none]

Element definition: **gpo-user-group**

[top]

A group name or a user name.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **group-mapping**

group-mapping-create
group-mapping-delete
group-mapping-get-iter
group-mapping-insert
group-mapping-modify
group-mapping-swap

group-mapping-create

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new group mapping for a Vserver.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.
replacement		string	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.
return-record		boolean optional	If set to true, returns the group-mapping on successful creation. Default: false

Output Name	Range	Type	Description
result		group-mapping-info optional	The group-mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

group-mapping-delete

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete an existing group mapping entry.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

group-mapping-get-iter

[top]

This API is no longer supported as of ONTAP 9.5.0.

Retrieve the list of group mappings in the cluster.

Input Name	Range	Type	Description
desired-attributes		group-mapping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		group-mapping-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the group-mapping object. All group-mapping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		group-mapping-info[] optional	The list of attributes of group-mapping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more group-mapping objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

group-mapping-insert

[top]

This API is no longer supported as of ONTAP 9.5.0.

Insert a group mapping into the table at a specified position.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..1024]**	integer	Position within the set of group mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list.
replacement		string	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

group-mapping-modify

[top]

This API is no longer supported as of ONTAP 9.5.0.

Modify an existing group mapping entry.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string optional	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.
replacement		string optional	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

group-mapping-swap

[top]

This API is no longer supported as of ONTAP 9.5.0.

Swap the position of one group mapping with another. The position is the place in the sequence of group mappings in which the mappings are applied.

Input Name	Range	Type	Description
direction		string	Direction in which the group mapping is applied.
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.
with-position	**[0..2^32-1]**	integer	Position of an existing group mapping entry in the list of group mappings for this Vserver. This entry will be swapped with the entry at 'position'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **group-mapping-info**

[top]

This type is no longer supported as of ONTAP 9.5.0.

group mapping configuration for Vservers. The possible sources of group mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user groups, UNIX user groups and Kerberos principal groups can be three disjoint sets of groups. A mechanism is needed to map groups from one set to another when presenting ACLs across multiprotocol clients. Each group mapping entry represents one such map in a given direction. group mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to '418 :+)' and the replacement string should be set to '\1'. The double backslash (\\) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
direction		name-mapping-direction optional	Direction in which the group mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string optional	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable
position	**[1..1024]**	integer optional	Position of an existing group mapping in the list of group mappings for this Vserver. Attributes: key, required-for-create, non-modifiable
		string	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string

replacement		optional	containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable
vserver		string optional	Specifies the Vserver for the group mapping. Attributes: key, non-creatable, non-modifiable

Element definition: **name-mapping-direction**

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Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

APIs in Category: **ha-interconnect**

This set of ZAPIs allows management of high-availability interconnect device and its links.

ha-interconnect-clear-port-counters
ha-interconnect-clear-port-symbol-errors
ha-interconnect-config-details-get-iter
ha-interconnect-connection-status-get-iter
ha-interconnect-flint-flash-details-get-iter
ha-interconnect-flint-image-details-get-iter
ha-interconnect-flint-verify-flash
ha-interconnect-flint-verify-image
ha-interconnect-flush-details-get-iter
ha-interconnect-get-config-details
ha-interconnect-get-connection-status
ha-interconnect-get-flint-flash-details
ha-interconnect-get-flint-image-details
ha-interconnect-get-flush-details
ha-interconnect-get-nvram-configuration
ha-interconnect-get-ood-status
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ha-interconnect-timeout-values-get-iter

ha-interconnect-clear-port-counters

[top]

Clear high-availability interconnect port counters of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-clear-port-symbol-errors

[top]

Clear high-availability interconnect port symbol errors of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-config-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device configuration information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-config-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-config-details optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-config-details object. All ha-interconnect-config-details objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-config-details[] optional	The list of attributes of ha-interconnect-config-details objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-config-details objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-connection-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect connection status

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		ha-interconnect-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-status-info object. All ha-interconnect-status-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-status-info[] optional	The list of attributes of ha-interconnect-status-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-status-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_INSUFFICIENT_DATA	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-flint-flash-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the flash card attached to adapter

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-flash-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-flint-flash-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-flash-info object. All ha-interconnect-flint-flash-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-flint-flash-info[] optional	The list of attributes of ha-interconnect-flint-flash-info objects.

next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-flint-flash-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-flint-image-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the system

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-flint-image-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-image-info object. All ha-interconnect-flint-image-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-flint-image-info[] optional	The list of attributes of ha-interconnect-flint-image-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-flint-image-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-flint-verify-flash

[top]

Verify high-availability interconnect binary firmware image residing in flash card attached to adapter on the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLINT_FAIL	

ha-interconnect-flint-verify-image

[top]

Verify high-availability interconnect binary firmware image residing in system on the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLINT_FAIL	

ha-interconnect-flush-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device flush information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flush-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-flush-details optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flush-details object. All ha-interconnect-flush-details objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		ha-interconnect-	

attributes-list		flush-details[] optional	The list of attributes of ha-interconnect-flush-details objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-flush-details objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLUSHING_INACTIVE	

ha-interconnect-get-config-details

[top]

Get high-availability interconnect device configuration information of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-config-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this configuration information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-config-details	The attributes of the ha-interconnect-config-details.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-connection-status

[top]

Get high-availability interconnect connection status of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this connection status belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-status-info	The attributes of the ha-interconnect-status-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_INSUFFICIENT_DATA	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-flint-flash-details

[top]

Get high-availability interconnect binary firmware image information residing in the flash card attached to adapter of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-flash-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this device firmware image information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-flint-flash-info	The attributes of the ha-interconnect-flint-flash-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-flint-image-details

[top]

Get high-availability interconnect binary firmware image information residing in the system of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this device firmware image information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-flint-image-info	The attributes of the ha-interconnect-flint-image-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-flush-details

[top]

Get high-availability interconnect device flush information of the selected node

Input Name	Range	Type	Description
channel-name		ha-ic-nv-channel	High-availability interconnect device NVRAM channel name. Possible values: • "wafl" - HA Interconnect WAFL NV Channel, • "raid" - HA Interconnect RAID NV Channel, • "misc" - HA Interconnect MISC NV Channel
desired-attributes		ha-interconnect-flush-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this flush information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-flush-details	The attributes of the ha-interconnect-flush-details.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLUSHING_INACTIVE	

ha-interconnect-get-nvram-configuration

[top]

Get basic nvram configuration information of the selected node

Input Name	Range	Type	Description
desired-		ha-interconnect-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		nvram-info optional	present, only the desired attributes for which information is available will be returned.
node-name		node-name	Node

Output Name	Range	Type	Description
attributes		ha-interconnect-nvram-info	The attributes of the ha-interconnect-nvram-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_NO_NVRAM	

ha-interconnect-get-ood-status

[top]

Get high-availability interconnect device out-of-order delivery information of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-ood-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this out-of-order delivery capability information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-ood-status	The attributes of the ha-interconnect-ood-status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-performance-statistics

[top]

Get high-availability interconnect performance statistics of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-performance-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this performance statistics belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-performance-statistics	The attributes of the ha-interconnect-performance-statistics.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-get-port-details

[top]

Get high-availability interconnect device port information of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-port-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this high-availability interconnect device port information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-port-details	The attributes of the ha-interconnect-port-details.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-scatter-gather-list-statistics

[top]

Get high-availability interconnect device scatter-gather list entry statistics of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-scatter-gather-list-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this scatter-gather list entry statistics belongs.

Output Name	Range	Type	Description

attributes		ha-interconnect-scatter-gather-list-statistics	The attributes of the ha-interconnect-scatter-gather-list-statistics.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-get-timeout-values

[top]

Get high-availability interconnect software timeout values of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-timeout optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which these timeout values belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-timeout	The attributes of the ha-interconnect-timeout.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-link-off

[top]

Turn off selected interconnect link on the selected node

Input Name	Range	Type	Description
link-number		ha-ic-device-port	Interconnect link number (0-based) to turn off.
node-name		filer-id	The node on which the link command executes.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_LINK_OPERATION_STATUS	

ha-interconnect-link-on

[top]

Turn on selected interconnect link on the selected node

Input Name	Range	Type	Description
link-number		ha-ic-device-port	Interconnect link number (0-based) to turn on.
node-name		filer-id	The node on which the link command executes.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_LINK_OPERATION_STATUS	

ha-interconnect-modify-timeout-values

[top]

Change high-availability interconnect software timeout values of the selected node

Input Name	Range	Type	Description
ic-mvia-timeout		integer optional	Interconnect Read/write Timeout For Virtual Platforms(msecs)
ic-timeout		integer optional	Interconnect Read/write Timeout (msecs)
node-name		node-name	The node to which these timeout values belongs.
ofw-mvia-timeout		integer optional	Firmware Read Timeout For Virtual Platforms(msecs)
ofw-timeout		integer optional	Firmware Read Timeout (msecs)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-nic-reset

[top]

Reset high-availability interconnect device of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

[top]

ha-interconnect-nvram-configuration-get-iter

Iterate over list of nodes in the cluster to get their basic nvram configuration information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-nvram-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-nvram-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-nvram-info object. All ha-interconnect-nvram-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-nvram-info[] optional	The list of attributes of ha-interconnect-nvram-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-nvram-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_NO_NVRAM	

ha-interconnect-ood-clear-error-statistics

[top]

Clear high-availability interconnect device out-of-order delivery error statistics of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-clear-performance-statistics

[top]

Clear high-availability interconnect device out-of-order delivery performance statistics of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-disable-statistics

[top]

Disable high-availability interconnect device out-of-order delivery statistics collection for the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-enable-statistics

[top]

Enable high-availability interconnect device out-of-order delivery statistics collection for the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-optimization-off

[top]

Disable coalescing work requests on high-availability interconnect device of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-optimization-on

[top]

Enable coalescing work requests on high-availability interconnect device of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-send-diagnostic-buffer

[top]

Send diagnostic buffer to the HA partner of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_SEND_DIAG_FAIL	

ha-interconnect-ood-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device out-of-order delivery information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-ood-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
		ha-	A query that specifies which objects to return. A query could be

query		interconnect-ood-status optional	specified on any number of attributes in the ha-interconnect-ood-status object. All ha-interconnect-ood-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-ood-status[] optional	The list of attributes of ha-interconnect-ood-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-ood-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-performance-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect performance statistics

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-performance-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-performance-statistics optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-performance-statistics object. All ha-interconnect-performance-statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-performance-statistics[] optional	The list of attributes of ha-interconnect-performance-statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-performance-statistics objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

ha-interconnect-port-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device port information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-port-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-port-details optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-port-details object. All ha-interconnect-port-details objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-port-details[] optional	The list of attributes of ha-interconnect-port-details objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-port-details objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ha-interconnect-scatter-gather-list-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device scatter-gather list entry statistics

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-scatter-gather-list-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		statistics optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-scatter-gather-list-statistics optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-scatter-gather-list-statistics object. All ha-interconnect-scatter-gather-list-statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-scatter-gather-list-statistics[] optional	The list of attributes of ha-interconnect-scatter-gather-list-statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-scatter-gather-list-statistics objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ha-interconnect-timeout-values-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect software timeout values

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-timeout optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-timeout optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-timeout object. All ha-interconnect-timeout objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-timeout[]	The list of attributes of ha-interconnect-timeout objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-timeout objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ha-ic-device-port**

[top]

0|1 Possible values:

- "0" - HA Interconnect Device Port 0,
- "1" - HA Interconnect Device Port 1

[none]

Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

Element definition: **ha-interconnect-config-details**

[top]

High-availability interconnect configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-request-initiator		ha-ic-initiator optional	The initiator of the connection request. Attributes: non-creatable, non-modifiable Possible values: • "local" - HA Interconnect connections are initiated by the local node, • "partner" - HA Interconnect connections are initiated by the partner
interconnect-port-details		interconnect-port-info[] optional	Interconnect device ports information
interface-type		ha-ic-interface-type optional	High-availability interconnect links connection interface. Attributes: non-creatable, non-modifiable Possible values: • "backplane" - HA Interconnect is using backplane (internal) links, • "external" - HA Interconnect is using external links
local-node-sysid	**[0..2^32-1]**	integer optional	Local system identifier. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this configuration information belongs. Attributes: key, non-creatable, non-modifiable
partner-node-sysid	**[0..2^32-1]**	integer optional	HA partner system identifier. Attributes: non-creatable, non-modifiable
transport-type		string optional	High-availability interconnect type. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-flint-flash-info**

[top]

High-availability interconnect binary firmware image information residing in flash card attached to adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
board-id		string optional	Interconnect device board identifier. Attributes: non-creatable, non-modifiable
chip-revision		string optional	Chip Revision Attributes: non-creatable, non-modifiable
device-id	**[0..2^32-1]**	integer optional	Device ID Attributes: non-creatable, non-modifiable
fw-version		string optional	Firmware Version Attributes: non-creatable, non-modifiable

hw-access-key		string optional	Hardware Access Key Attributes: non-creatable, non-modifiable
image-type		ha-ic-flint-image-type optional	Image Type Attributes: non-creatable, non-modifiable Possible values: • "connectx" - ConnectX device family, • "fs2" - Flexible storage solutions device family, • "failsafe" - Failsafe enabled device family, • "short" - Non-Failsafe device family
invariant-sector-version	**[0..2^32-1]**	integer optional	Invariant Sector Version Attributes: non-creatable, non-modifiable
node-guid		string optional	Node global unique identifier. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable
parameter-set-id		string optional	Parameter set identifier. Attributes: non-creatable, non-modifiable
port1-guid		string optional	Port 1 global unique identifier. Attributes: non-creatable, non-modifiable
port1-mac		string optional	Port 1 MAC address. Attributes: non-creatable, non-modifiable
port2-guid		string optional	Port 2 GUID Attributes: non-creatable, non-modifiable
port2-mac		string optional	Port 2 MAC address. Attributes: non-creatable, non-modifiable
product-version		string optional	Product Version Attributes: non-creatable, non-modifiable
sys-image-guid		string optional	System image global unique identifier. Attributes: non-creatable, non-modifiable
vendor-specific-data		string optional	Vendor specific data. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-flint-image-info**

[top]

High-availability interconnect binary firmware image information residing in system When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
board-id		string optional	Interconnect device board identifier. Attributes: non-creatable, non-modifiable
chip-revision		string optional	Chip Revision Attributes: non-creatable, non-modifiable
	[0..2^32-	integer	

device-id	**1]**	optional	Device ID Attributes: non-creatable, non-modifiable
fw-version		string optional	Firmware Version Attributes: non-creatable, non-modifiable
hw-access-key		string optional	Hardware Access Key Attributes: non-creatable, non-modifiable
image-type		ha-ic-flint-image-type optional	Image Type Attributes: non-creatable, non-modifiable Possible values: • "connectx" - ConnectX device family, • "fs2" - Flexible storage solutions device family, • "failsafe" - Failsafe enabled device family, • "short" - Non-Failsafe device family
invariant-sector-version	**[0..2^32-1]**	integer optional	Invariant Sector Version Attributes: non-creatable, non-modifiable
node-guid		string optional	Node global unique identifier. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable
parameter-set-id		string optional	Parameter set identifier. Attributes: non-creatable, non-modifiable
port1-guid		string optional	Port 1 global unique identifier. Attributes: non-creatable, non-modifiable
port1-mac		string optional	Port 1 MAC address. Attributes: non-creatable, non-modifiable
port2-guid		string optional	Port 2 GUID Attributes: non-creatable, non-modifiable
port2-mac		string optional	Port 2 MAC address. Attributes: non-creatable, non-modifiable
product-version		string optional	Product Version Attributes: non-creatable, non-modifiable
sys-image-guid		string optional	System image global unique identifier. Attributes: non-creatable, non-modifiable
vendor-specific-data		string optional	Vendor specific data. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-flush-details**

[top]

High-availability interconnect flush information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			High-availability interconnect device NVRAM channel name.

channel-name		ha-ic-nv-channel optional	Attributes: key, non-creatable, non-modifiable Possible values: • "wafl" - HA Interconnect WAFL NV Channel, • "raid" - HA Interconnect RAID NV Channel, • "misc" - HA Interconnect MISC NV Channel
node-name		node-name optional	The node to which this flush information belongs. Attributes: key, non-creatable, non-modifiable
recv-flush-request-id	**[0..2^64-1]**	integer optional	Flush receive request identifier. Attributes: non-creatable, non-modifiable
recv-notify-complete-id	**[0..2^64-1]**	integer optional	Flush receive request completion identifier. Attributes: non-creatable, non-modifiable
sent-flush-request-id	**[0..2^64-1]**	integer optional	Flush sent request identifier. Attributes: non-creatable, non-modifiable
sent-notify-complete-id	**[0..2^64-1]**	integer optional	Flush sent request completion identifier. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-nvram-info**

[top]

Basic nvram configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
local-size		size optional	Amount of NVRAM used by Local Node Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node Attributes: key, non-creatable, non-modifiable
partition		string optional	NVRAM Partition Attributes: non-creatable, non-modifiable
total-size		size optional	Total NVRAM Size Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-ood-status**

[top]

High-availability interconnect device out-of-order delivery information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-coalescing-enabled		boolean optional	Is Coalescing Enabled Attributes: non-creatable, non-modifiable
is-ood-enabled		boolean optional	Is OOD Enabled Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this out-of-order delivery capability information belongs. Attributes: key, non-creatable, non-modifiable

Element definition: **ha-interconnect-performance-statistics**

[top]

Display high-availability interconnect performance statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
average-bytes-per-transfer	**[0..2^64-1]**	integer optional	Average amount of bytes sent per transfer. Attributes: non-creatable, non-modifiable
average-megabytes-per-second		string optional	Average megabytes (MB) transferred per second. Attributes: non-creatable, non-modifiable
average-receive-queue-wait-time	**[0..2^64-1]**	integer optional	Average amount of time (in usecs) the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable
average-remote-nv-msgs-time	**[0..2^64-1]**	integer optional	Average time (in usecs) between two remote NV messages. Attributes: non-creatable, non-modifiable
average-remote-nv-transfer-size	**[0..2^64-1]**	integer optional	Average transfer size of a remote NV message. Attributes: non-creatable, non-modifiable
average-remote-nv-transfer-time	**[0..2^64-1]**	integer optional	Average transfer time taken (in usecs) by remote NV messages. Attributes: non-creatable, non-modifiable
avg-misc-queue-length	**[0..2^64-1]**	integer optional	Average MISC interconnect channel queue depth. Attributes: non-creatable, non-modifiable
avg-nvlog-sync-time	**[0..2^64-1]**	integer optional	Average time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable
avg-raid-queue-length	**[0..2^64-1]**	integer optional	Average RAID interconnect channel queue depth. Attributes: non-creatable, non-modifiable
avg-wafl-queue-length	**[0..2^64-1]**	integer optional	Average WAFL interconnect channel queue depth. Attributes: non-creatable, non-modifiable

elapsed-time	**[0..2^32-1]**	integer optional	Elapsed time (in seconds) between statistics collection start time and end time. Attributes: non-creatable, non-modifiable
ic-16k-writes	**[0..2^64-1]**	integer optional	Total number of 16K or more size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-4k-writes	**[0..2^64-1]**	integer optional	Total number of 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-8k-writes	**[0..2^64-1]**	integer optional	Total number of 8K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-data-aligned	**[0..2^64-1]**	integer optional	Total number of aligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-data-misaligned	**[0..2^64-1]**	integer optional	Total number of misaligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-discontiguous-writes	**[0..2^64-1]**	integer optional	Total number of times the interconnect device performs discontiguous writes spanned across memory pages. Attributes: non-creatable, non-modifiable
ic-isdone	**[0..2^64-1]**	integer optional	Total number of times the interconnect client checked for the completion of a given tranfer ID. Attributes: non-creatable, non-modifiable
ic-isdone-fail	**[0..2^64-1]**	integer optional	Total number of times the check for the completion of a given trasfer ID is not yet successful. Attributes: non-creatable, non-modifiable
ic-isdone-pass	**[0..2^64-1]**	integer optional	Total number of times the check for the completion of a given transfer ID is successful. Attributes: non-creatable, non-modifiable
ic-metadata-aligned	**[0..2^64-1]**	integer optional	Total number of aligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-metadata-misaligned	**[0..2^64-1]**	integer optional	Total number of misaligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-small-writes	**[0..2^64-1]**	integer optional	Total number of less than 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-waitdone-time	**[0..2^64-1]**	integer optional	Average time (in usecs) the interconnect device spent waiting for the IDs to be transferred successfully. Attributes: non-creatable, non-modifiable
ic-waits	**[0..2^64-1]**	integer optional	Total number of times the interconnect device waits until the transfer of a given ID is successful. Attributes: non-creatable, non-modifiable
ic-xorder-reads	**[0..2^64-1]**	integer optional	Total number of out-of-order reads performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-xorder-writes	**[0..2^64-1]**	integer optional	Total number of out-of-order writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
max-nvlog-sync-time	**[0..2^64-1]**	integer optional	Maximum time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable
max-sgl-length	**[0..2^32-1]**	integer optional	Maximum length of scatter-gather list supported by the interconnect device. Attributes: non-creatable, non-modifiable
misc-data-io	**[0..2^64-1]**	integer optional	Total number of MISC data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
misc-flush-io	**[0..2^64-1]**	integer optional	Total number of MISC flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
misc-metadata-io	**[0..2^64-1]**	integer optional	Total number of MISC metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this performance statistics belongs. Attributes: key, non-creatable, non-modifiable
nonpreempt-	**[0..2^64-**	integer	Total number of times polling on the given transfer ID stopped due to interconnect device read/write timeout. Attributes: non-

timeout	**1]**	optional	creatable, non-modifiable
notify-timeout	**[0..2^64-1]**	integer optional	Total number of times data transfer on the HA interconnect timed out. Attributes: non-creatable, non-modifiable
nv-conn-failover-time	**[0..2^64-1]**	integer optional	NV connection failover time (in msecs). Attributes: non-creatable, non-modifiable
preempt-timeout	**[0..2^64-1]**	integer optional	Total number of times polling on the given transfer ID is preempted. Attributes: non-creatable, non-modifiable
queue-max-timeout	**[0..2^64-1]**	integer optional	Total number of times the interconnect device timed out waiting to post requests on the send queue. Attributes: non-creatable, non-modifiable
queue-max-wait-count	**[0..2^64-1]**	integer optional	Total number of times the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable
queue-max-wait-time	**[0..2^64-1]**	integer optional	Average amount of time (in usecs) the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable
raid-data-io	**[0..2^64-1]**	integer optional	Total number of RAID data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
raid-flush-io	**[0..2^64-1]**	integer optional	Total number of RAID flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
raid-metadata-io	**[0..2^64-1]**	integer optional	Total number of RAID metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
rdma-read	**[0..2^64-1]**	integer optional	Total number of RDMA reads performed by the interconnect device. Attributes: non-creatable, non-modifiable
rdma-read-waitdone-time	**[0..2^64-1]**	integer optional	Average time (in usecs) the interconnect device spent polling for transfer IDs on the RDMA-read channel. Attributes: non-creatable, non-modifiable
remote-nv-transfers	**[0..2^64-1]**	integer optional	Total number of remote NV transfers attempted. Attributes: non-creatable, non-modifiable
total-receive-queue-waits	**[0..2^64-1]**	integer optional	Total number of times the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable
total-transfers	**[0..2^64-1]**	integer optional	Total number of transfers made through the interconnect device. Attributes: non-creatable, non-modifiable
wafl-data-io	**[0..2^64-1]**	integer optional	Total number of WAFL data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
wafl-flush-io	**[0..2^64-1]**	integer optional	Total number of WAFL flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
wafl-metadata-io	**[0..2^64-1]**	integer optional	Total number of WAFL metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-port-details**

[top]

High-availability interconnect device port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
device-port-details		device-port-info[] optional	Interconnect device port link state information
link-monitor		boolean optional	Link monitor detection capability. On means link monitor detection is enabled on this device. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this high-availability interconnect device port information belongs. Attributes: key, non-creatable, non-modifiable

Element definition: **ha-interconnect-scatter-gather-list-statistics**

[top]

High-availability interconnect device scatter-gather list entry statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node-name		node-name optional	The node to which this scatter-gather list entry statistics belongs. Attributes: key, non-creatable, non-modifiable
sgl-details		sgl-info[] optional	Interconnect device scatter-gather list statistics

Element definition: **ha-interconnect-status-info**

[top]

High-availability interconnect connection status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
command-revision	**[0..2^32-1]**	integer optional	High-availability interconnect device command revision. Attributes: non-creatable, non-modifiable

debug-firmware		boolean optional	High-availability interconnect device firmware debug capability status. Attributes: non-creatable, non-modifiable
device-type		string optional	Device Type Attributes: non-creatable, non-modifiable
driver-name		string optional	High-availability interconnect device driver name. Attributes: non-creatable, non-modifiable
firmware		string optional	High-availability interconnect device firmware version. Attributes: non-creatable, non-modifiable
hardware-revision	**[0..2^32-1]**	integer optional	High-availability interconnect device hardware revision. Attributes: non-creatable, non-modifiable
ic-connection		ha-ic-state optional	The status of failover monitor channel over the interconnect. up means channel is active. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
is-link0-active		boolean optional	Link 0 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable
is-link1-active		boolean optional	Link 1 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable
link-status		ha-ic-state optional	High-availability interconnect link status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
link0-status		ha-ic-state optional	High-availability interconnect link 0 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
link1-status		ha-ic-state optional	High-availability interconnect link 1 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
node-name		node-name optional	The node to which this connection status belongs. Attributes: key, non-creatable, non-modifiable
nvlog-rdma		ha-ic-state optional	The status of NVRAM channels over the interconnect. up means channels are active. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
port-number-1	**[0..2^32-1]**	integer optional	High-availability interconnect device port 1. Attributes: non-creatable, non-modifiable
port-number-2	**[0..2^32-1]**	integer optional	High-availability interconnect device port 2. Attributes: non-creatable, non-modifiable

port1-base-lid		string optional	High-availability interconnect device port 1 local identifier. Attributes: non-creatable, non-modifiable
port1-data-rate		string optional	High-availability interconnect device port 1 supported data rate. Attributes: non-creatable, non-modifiable
port1-gid		string optional	High-availability interconnect device port 1 global identifier. Attributes: non-creatable, non-modifiable
port1-link-info		string optional	High-availability interconnect device port 1 link information. Attributes: non-creatable, non-modifiable
port1-mtu	**[0..2^32-1]**	integer optional	High-availability interconnect device port 1 maximum transmission unit size. Attributes: non-creatable, non-modifiable
port1-port-name		string optional	High availability interconnect device port 1 port name. Attributes: non-creatable, non-modifiable
port1-qsfp-part-number		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable
port1-qsfp-serial-number		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable
port1-qsfp-type		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable
port1-qsfp-vendor		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable
port1-remote-lid		string optional	High-availability interconnect device port 2 remote local identifier. Attributes: non-creatable, non-modifiable
port2-base-lid		string optional	High-availability interconnect device port 2 local identifier. Attributes: non-creatable, non-modifiable
port2-data-rate		string optional	High-availability interconnect device port 2 supported data rate. Attributes: non-creatable, non-modifiable
port2-gid		string optional	High-availability interconnect device port 2 global identifier. Attributes: non-creatable, non-modifiable
port2-link-info		string optional	High-availability interconnect device port 2 link information. Attributes: non-creatable, non-modifiable
port2-mtu	**[0..2^32-1]**	integer optional	High-availability interconnect device port 2 maximum transmission unit size. Attributes: non-creatable, non-modifiable
port2-port-name		string optional	High availability interconnect device port 2 port name. Attributes: non-creatable, non-modifiable
port2-qsfp-part-number		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable
port2-qsfp-serial-number		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable
port2-qsfp-type		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable
port2-qsfp-vendor		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable
serial-number		string optional	High-availability interconnect device serial number. Attributes: non-creatable, non-modifiable
slot	**[0..2^32-1]**	integer optional	High-availability interconnect device PCI slot number. Attributes: non-creatable, non-modifiable
		string	High-availability interconnect device version number. Attributes:

version		optional	non-creatable, non-modifiable

Element definition: **ha-interconnect-timeout**

[top]

High-availability interconnect software timeout values When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ic-mvia-timeout	**[1000..34000]**	integer optional	Interconnect Read/write Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable
ic-timeout	**[1000..4000]**	integer optional	Interconnect Read/write Timeout (msecs) Attributes: non-creatable, modifiable
node-name		node-name optional	The node to which these timeout values belongs. Attributes: key, non-creatable, non-modifiable
ofw-mvia-timeout	**[1000..34000]**	integer optional	Firmware Read Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable
ofw-timeout	**[1000..4000]**	integer optional	Firmware Read Timeout (msecs) Attributes: non-creatable, modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **device-port-info**

[top]

Interconnect device port link state information

Name	Range	Type	Description
is-active-link		boolean optional	Link active status. True means link on this given port is now active and used for the operations. Attributes: non-creatable, non-modifiable
		ha-ic-cx-	High-availability interconnect link link layer state on a given port. Attributes: non-creatable, non-modifiable Possible values: • "invalid" ,

link-layer-state		link-state optional	"down" , • "initialize" , • "armed" , • "active" , • "reserved"
phy-layer-state		ha-ic-cx-phy-state optional	High-availability interconnect link physical layer state on a given port. Attributes: non-creatable, non-modifiable Possible values: • "invalid" , • "sleep" , • "polling" , • "disabled" , • "port_configuration_testing" , • "linkup" , • "link_error_recovery" , • "phytest" , • "reserved"
phy-link-down-count	**[0..2^32-1]**	integer optional	Total number of times the link on a given port is transitioned down. Attributes: non-creatable, non-modifiable
phy-link-up-count	**[0..2^32-1]**	integer optional	Total number of times the link on a given port is transitioned up. Attributes: non-creatable, non-modifiable
port	**[0..2^32-1]**	integer optional	High-availability interconnect device port number. Attributes: non-creatable, non-modifiable

Element definition: **ha-ic-flint-image-type**

[top]

connectx|fs2|failsafe|short Possible values:

- "connectx" - ConnectX device family,
- "fs2" - Flexible storage solutions device family,
- "failsafe" - Failsafe enabled device family,
- "short" - Non-Failsafe device family

[none]

Element definition: **ha-ic-initiator**

[top]

local|partner Possible values:

- "local" - HA Interconnect connections are initiated by the local node,
- "partner" - HA Interconnect connections are initiated by the partner

[none]

Element definition: **ha-ic-interface-type**

[top]

backplane|external Possible values:

- "backplane" - HA Interconnect is using backplane (internal) links,
- "external" - HA Interconnect is using external links

[none]

Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

Element definition: **ha-ic-state**

[top]

up|down Possible values:

- "up" - Indicate up status of a HA Interconnect entity,
- "down" - Indicate down status of a HA Interconnect entity,
- "error" - Indicate error status of a HA Interconnect entity

[none]

Element definition: **interconnect-port-info**

[top]

Interconnect device ports information

Name	Range	Type	Description
interface-flags		string optional	High-availability interconnect device port interface flags. Attributes: non-creatable, non-modifiable
ipaddress		string optional	High-availability interconnect device port IP address. Attributes: non-creatable, non-modifiable
port-name		string optional	High-availability interconnect device port name. Attributes: non-creatable, non-modifiable

Element definition: **sgl-info**

[top]

Interconnect device scatter-gather list statistics

Name	Range	Type	Description
scatter-gather-entry	**[0..2^32-1]**	integer optional	The index value of the scatter-gather entry in the list. Attributes: non-creatable, non-modifiable
total-count	**[0..2^64-1]**	integer optional	Total number of times a particular scatter-gather list element is used. Attributes: non-creatable, non-modifiable
total-size	**[0..2^64-1]**	integer optional	Total number of bytes written by the high-availability interconnect device using a particular scatter-gather list element. Attributes: non-creatable, non-modifiable

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **ha-ic-cx-link-state**

[top]

invalid|down|initialize|armed|active|reserved Possible values:

- "invalid" ,
- "down" ,
- "initialize" ,
- "armed" ,
- "active" ,
- "reserved"

[none]

Element definition: **ha-ic-cx-phy-state**

[top]

invalid|sleep|polling|disabled|port-configuration-testing|linkup|link-error-recovery|phytest|reserved Possible values:

- "invalid" ,
- "sleep" ,
- "polling" ,
- "disabled" ,
- "port_configuration_testing" ,
- "linkup" ,
- "link_error_recovery" ,
- "phytest" ,
- "reserved"

[none]

APIs in Category: **igroup**

igroup-add
igroup-bind-portset
igroup-create
igroup-destroy
igroup-get-iter
igroup-list-info
igroup-lookup-lun
igroup-os-type-list
igroup-remove
igroup-rename
igroup-set-attribute
igroup-unbind-portset

igroup-add

[top]

Adds initiator to an existing initiator group.

Input Name	Range	Type	Description
force		boolean optional	Forcibly add the initiator, disabling mapping and type conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored.
initiator		string	WWPN, WWPN Alias, or iSCSI name of Initiator to add.
initiator-group-name		string	Name of initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_NOT_VALID_ISCSI_NAME	
EVDISK_ERROR_INITGROUP_HAS_NODE	
EVDISK_ERROR_LUN_MAPPING_CONFLICT	
EVDISK_ERROR_INITGROUP_TOO_MANY_NODENAMES	
EVDISK_ERROR_PARTNER_HAS_LUN	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE	
EVDISK_ERROR_VIRTUAL_LUN_MAPPING_CONFLICT	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-bind-portset

[top]

Bind an existing igroup to a given portset.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to bind the portset to.
portset-name		string	Name of portset.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_SET	
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_ALREADY_BOUND	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE	
EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND	
E_SAN_NOT_READY	

igroup-create

[top]

Creates a new initiator group. In Data ONTAP 7.3 and upto ONTAP 8.0, the ALUA (Asymmetric Logical Unit Access) attribute will be enabled by default if initiator-group-type is "fcp" and os-type is "aix", "hpux", or "linux. In Data ONTAP 7-mode 8.1 and later, the ALUA attribute is enabled by default for all os-type if initiator-group-type is "fcp". In Data ONTAP Cluster-Mode 8.1 and later, the ALUA attribute is enabled by default on all initiator groups.

Input Name	Range	Type	Description
bind-portset		string optional	Name of a current portset to bind to the newly created igroup.
initiator-group-name		string	Name of initiator group.
initiator-group-type		string	Type of the initiator group. Possible values: "fcp", "iscsi", "mixed". "mixed" is available in Data ONTAP Cluster-Mode 8.1 or later only.
os-type		initiator-group-os-type optional	OS type of the initiators within the group. The default value if not specified is "default". The os type applies to all initiators within the group and governs the finer details of SCSI protocol interaction with these initiators. It is strongly recommended for the caller of this API to specify an OS type that is not "default". Some host OSes require this type field be set correctly in order to function properly.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_OS_TYPE_VALUE	
EVDISK_ERROR_INITGROUP_EXISTS	
EVDISK_ERROR_INITGROUP_MISSING_ARGS	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE	
EVDISK_ERROR_PORTSET_NO_SUCH_SET	
EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND	

EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-destroy

[top]

Destroys an existing initiator group. By default a group cannot be destroyed if there are existing lun maps defined for that group. This behaviour can be overridden with the use of force option set to "true" which will destroy the initiator group and any associated lun maps.

Input Name	Range	Type	Description
force		boolean optional	Forcibly destroy the initiator group, even if there are existing lun maps. Best practice is to attempt to unmap all the luns associated with a group before destroying it.
initiator-group-name		string	Name of initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_MAPS_EXIST	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-get-iter

[top]

Iterate over a list of igroup objects.

Input Name	Range	Type	Description
desired-attributes		initiator-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		initiator-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the igroup object. All igroup objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		initiator-group-info[] optional	The list of attributes of igroup objects.
next-tag		string optional	Tag for the next call. Not present when there are no more igroup objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

igroup-list-info

[top]

Get information for initiator group(s).

Input Name	Range	Type	Description
initiator-group-name		string optional	Name of initiator group. If specified, only information for that group is returned. If not specified, information for all of the initiator groups is returned.

Output Name	Range	Type	Description
initiator-groups		initiator-group-info[]	List of initiator groups.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	

Vfiler-enabled
Yes

igroup-lookup-lun

[top]

Find the path to the lun mapped at a given lun-id for a given initiator group.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to search.
lun-id	**[0..4095]**	integer	Lun-id (Logical Unit Number) to search for.

Output Name	Range	Type	Description
path		string	Path to the lun.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	

Errno	Description
EVDISK_ERROR_NO_SUCH_LUNMAP	

Vfiler-enabled
Yes

igroup-os-type-list

[top]

Displays the supported values and descriptions for initiator-group-os-type.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[]	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

igroup-remove

[top]

Removes node(s) from an initiator group. The operation is prohibited if there are existing lun maps defined for that group. The force option set to "true" can be used to forcibly remove the node regardless of mappings.

Input Name	Range	Type	Description
force		boolean optional	Forcibly remove the initiator even if there are existing LUNs mapped to this initiator group.
initiator		string	WWPN, WWPN Alias, or iSCSI name of Initiator to remove.
initiator-group-name		string	Name of initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_MAPS_EXIST	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_NOT_VALID_ISCSI_NAME	
EVDISK_ERROR_NODE_NOT_IN_INITGROUP	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-rename

[top]

Rename an existing initiator group. The rename operation is non-disruptive.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to be renamed.
initiator-group-new-name		string	New name to be given to initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_EXISTS	
EVDISK_ERROR_CANT_CREATE_INITGROUP_FILE	
EVDISK_ERROR_CANT_WRITE_INITGROUP_FILE	
EVDISK_ERROR_CANT_RENAME_INITGROUP_FILE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-set-attribute

[top]

Sets an attribute for an initiator group.

Input Name	Range	Type	Description
attribute		string	Name of the attribute to change. Possible values: "alua", "os-type", "throttle_borrow", "throttle_reserve", "report_scsi_name". "alua" is available in Data ONTAP 7.2 or later. "report_scsi_name" is available in Data ONTAP 8.1.0 or later. "alua", "throttle_reserve","throttle_borrow" and "report_scsi_name" are not available in Data ONTAP Cluster-Mode.
initiator-group-name		string	Name of initiator group.
value		string	Value for the attribute. The valid values for "os-type" are the supported os-types listed in the igroup-create API. In Data ONTAP 7-Mode, setting the "os-type" attribute will perform checks with the high-availability partner if this filer is running in the 'single_image' fcp cfmode and this igroup is an FCP igroup. It is also strongly recommended the "default" os-type not be used. Using "default" may cause problems with LUN access. API to always require the proper OS type information The valid values for "throttle_reserve" are 0-99 The valid values for "throttle_borrow" are true or false The valid values for "alua" are true or false The valid values for "report_scsi_name" are true or false

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_MISSING_ARGS	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE	
EVDISK_ERROR_IGROUP_NOT_THROTTLED	
EVDISK_ERROR_IGROUP_ALREADY_THROTTLED	
EVDISK_ERROR_THROTTLE_TOO_MUCH	
EVDISK_ERROR_THROTTLE_BEING_DELETED	
EVDISK_ERROR_NO_ISCSI_THROTTLES	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_VALUE	

EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_CONFIG	
EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_ALUA_NOT_SUPPORTED	
EVDISK_ERROR_INITGROUP_WRONG_TYPE	
EVDISK_ERROR_ALUA_ISCSI_TRANSPORT_TYPE_CONFLICT	
EVDISK_ERROR_ALUA_FCP_TRANSPORT_TYPE_CONFLICT	
E_SAN_NOT_READY	

igroup-unbind-portset

[top]

Unbind an existing igroup from a portset.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to unbind from the portset.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_NOT_BOUND	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
E_SAN_NOT_READY	

Element definition: **initiator-group-info**

[top]

Information about an initiator group.

Name	Range	Type	Description
initiator-group-alua-enabled		boolean	Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group.
initiator-group-delete-on-unmap		boolean optional	Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later.
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
initiator-group-portset-name		string optional	Name of the portset that is bound to the initiator group, if any.
initiator-			

group-report-scsi-name-enabled		boolean optional	Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later.
initiator-group-throttle-borrow		boolean	Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved.
initiator-group-throttle-reserve		integer	Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage.
initiator-group-type		string	Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed".
initiator-group-use-partner		boolean optional	Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'.
initiator-group-uuid		string optional	This value is Universally-unique identifier (UUID) of this initiator group. The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used. This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs. Here is an example of an actual UUID: 35d6ca90-c759-11df-8b6d-00a098132c6c
initiator-group-vsa-enabled		boolean	Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled.
initiators		initiator-info[] optional	List of initiators belonging to this group.
lun-id	**[0..4095]**	integer optional	LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api.
vserver		string optional	Name of the vserver hosting this initiator group

Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol

interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **initiator-info**

[top]

Information about one initiator.

Name	Range	Type	Description
initiator-name		string	Name of the initiator.

APIs in Category: **iscsi**

iscsi-adapter-config-down
iscsi-adapter-config-up
iscsi-adapter-initiators-list-info
iscsi-adapter-list-info
iscsi-adapter-reset-stats
iscsi-adapter-stats-list-info
iscsi-auth-add-initiator-address-ranges
iscsi-auth-generate-chap-password
iscsi-auth-remove-initiator-address-ranges
iscsi-connection-get-iter
iscsi-connection-list-info
iscsi-initiator-add-auth
iscsi-initiator-auth-get-iter
iscsi-initiator-auth-list-info
iscsi-initiator-delete-auth
iscsi-initiator-get-auth
iscsi-initiator-get-default-auth
iscsi-initiator-get-iter
iscsi-initiator-list-info
iscsi-initiator-modify-chap-params
iscsi-initiator-set-default-auth
iscsi-interface-accesslist-add
iscsi-interface-accesslist-get-iter
iscsi-interface-accesslist-remove
iscsi-interface-disable
iscsi-interface-enable
iscsi-interface-get-iter
iscsi-interface-list-info
iscsi-interface-modify
iscsi-iptpgroup-create
iscsi-iptpgroup-destroy
iscsi-iptpgroup-ipaddr-add
iscsi-iptpgroup-ipaddr-delete
iscsi-iptpgroup-list-info
iscsi-isns-config
iscsi-isns-create
iscsi-isns-destroy
iscsi-isns-get-info
iscsi-isns-get-iter
iscsi-isns-start
iscsi-isns-stop
iscsi-isns-update
iscsi-node-get-name
iscsi-node-set-name
iscsi-portal-list-info
iscsi-reset-stats
iscsi-service-create
iscsi-service-destroy
iscsi-service-get-iter

iscsi-service-modify
iscsi-service-start
iscsi-service-status
iscsi-service-stop
iscsi-session-get-iter
iscsi-session-list-info
iscsi-stats-get-iter
iscsi-stats-list-info
iscsi-target-alias-clear-alias
iscsi-target-alias-get-alias
iscsi-target-alias-set-alias
iscsi-tpgroup-alua-set
iscsi-tpgroup-create
iscsi-tpgroup-destroy
iscsi-tpgroup-get-iter
iscsi-tpgroup-interface-add
iscsi-tpgroup-interface-delete
iscsi-tpgroup-list-info

iscsi-adapter-config-down

[top]

Configures the specified adapter down. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

Input Name	Range	Type	Description
iscsi-adapter		string	iscsi adapter.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-adapter-config-up

[top]

Configures the specified adapter up. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

Input Name	Range	Type	Description
iscsi-adapter		string	iscsi adapter.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to any of the portal groups associated with specified adapter. Information returned for each initiator includes the target portal group number to which the initiator is connected, as well as the iSCSI initiator nodename and ISID. If no adapter is specified, information is returned for all initiators connected through any adapter in the system. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

Input Name	Range	Type	Description
iscsi-adapter		string optional	Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any iscsi adapter in the system.

Output Name	Range	Type	Description
iscsi-adapters		iscsi-adapter-initiators-info[]	A list of iscsi adapters containing list of initiators.

Errno	Description
EADAPTERNOTFOUND	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-adapter-list-info

[top]

Display the configuration information for iscsi adaptor(s), including the iSCSI portals associated with a virtual adapter. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

Input Name	Range	Type	Description
iscsi-adapter		string optional	Returns configuration information for adapter if specified. If not specified, then configuration information for all adapters are returned.

Output Name	Range	Type	Description
iscsi-config-adapters		iscsi-config-adapter-	A list of iscsi adapter configuration information.

		info[]	

Errno	Description
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

License
iscsi

iscsi-adapter-reset-stats

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-reset-stats

Input Name	Range	Type	Description
iscsi-adapter		string optional	Adapter to reset statistics for.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-adapter-stats-list-info

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-stats-list-info The fields returned by iscsi-stats-list-info are very slightly different from those previously returned by iscsi-adapter-stats-list-info

Input Name	Range	Type	Description
iscsi-adapter		string optional	Adapter to get statistics for.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-auth-add-initiator-address-ranges

[top]

Add one or more Initiator IP Address Ranges

Input Name	Range	Type	Description
initiator		string	Initiator Name
initiator-address-ranges		ip-range-or-mask[]	Initiator IP Address Ranges

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-auth-generate-chap-password

[top]

Generate a 128 bit random password that can be used as a CHAP secret. This API was removed in Data ONTAP 9.0. Applications should use local entropy to generate CHAP secrets if desired.

Output Name	Range	Type	Description
secret		string	A randomly generated 128 bit password.

Errno	Description
EISCSISECPROCESSINGERROR	
EAPIUNSUPPORTEDVERSION	

Vfiler-enabled
Yes

License
iscsi

iscsi-auth-remove-initiator-address-ranges

[top]

Remove one or more Initiator IP Address Ranges

Input Name	Range	Type	Description
initiator		string	Initiator Name
initiator-address-ranges		ip-range-or-mask[]	Initiator IP Address Ranges

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-connection-get-iter

[top]

Iterate over a list of iSCSI Connection objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-connection-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-connection-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Connection object. All iSCSI Connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-connection-list-entry-info[] optional	The list of attributes of iSCSI Connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-connection-list-info

[top]

list iscsi connections on filer

Output Name	Range	Type	Description
iscsi-connection-list-entries		iscsi-connection-list-entry-info[]	List of connection

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License

iscsi

iscsi-initiator-add-auth

[top]

Add initiator to the authentication list.

Input Name	Range	Type	Description
auth-type		string	Authentication type. Possible values: "CHAP", "none", "deny".
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".
initiator-address-ranges		ip-range-or-mask[] optional	May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address. An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.
outbound-passphrase		string optional	Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
outbound-user-name		string optional	Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
passphrase		string optional	Inbound CHAP user password, required for auth-type equal to CHAP.
radius		boolean optional	"true" if RADIUS is the only forced CHAP authentication policy, Default is "false".
user-name		string optional	Inbound CHAP user name, required for auth-type equal to CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-auth-get-iter

[top]

Iterate over a list of iSCSI initiator authentication configuration objects.

Input Name	Range	Type	Description

desired-attributes		iscsi-security-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-security-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI initiator authentication configuration object. All iSCSI initiator authentication configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-security-entry-info[] optional	The list of attributes of iSCSI initiator authentication configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI initiator authentication configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-initiator-auth-list-info

[top]

Gets authentication information for the specified initiator. If no initiator is specified, gets authentication information for all the known initiators. Password, if present is left out for security purposes.

Input Name	Range	Type	Description
initiator		string optional	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not supplied, all initiators are returned.

Output Name	Range	Type	Description
iscsi-security-entries		iscsi-security-entry-info[]	List of authentication entries.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
EISCSISECINITNOTFOUNDERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-delete-auth

[top]

Delete initiator from the authentication list

Input Name	Range	Type	Description
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECINITNOTFOUNDERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-get-auth

[top]

Get the authentication info for an initiator, if auth type is CHAP, only the user-name is returned, password is not returned for security purposes.

Input Name	Range	Type	Description
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not found, default authentication method is returned

Output Name	Range	Type	Description
auth-chap-policy		string optional	CHAP authentication path. Possible values: "radius", "local".
auth-type		string	Authentication type. Possible values: "CHAP", "none", "deny".
initiator-address-ranges		ip-range-or-mask[] optional	May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address. An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

outbound-user-name		string optional	Outbound CHAP user name, returned only if auth-type is CHAP and outbound authentication is enabled for this initiator.
user-name		string optional	Inbound CHAP user name, returned only if auth-type is CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-get-default-auth

[top]

Get the default authentication information for iscsi. If the authentication type is CHAP, only the username is returned, and not the password, for security purposes.

Output Name	Range	Type	Description
auth-chap-policy		string optional	CHAP authentication path. possible values: "radius", "local".
auth-type		string	Authentication type Possible values: "CHAP", "none", "deny".
outbound-user-name		string optional	Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator.
user-name		string optional	Inbound CHAP user name, returned only if auth-type is CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
EISCSISECINITNOTFOUNDERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-get-iter

[top]

Iterate over a list of remote iSCSI initiator objects.

Input Name	Range	Type	Description
		iscsi-	

desired-attributes		initiator-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-initiator-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the remote iSCSI initiator object. All remote iSCSI initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-initiator-list-entry-info[] optional	The list of attributes of remote iSCSI initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more remote iSCSI initiator objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-initiator-list-info

[top]

Gives list of initiators logged in

Output Name	Range	Type	Description
iscsi-initiator-list-entries		iscsi-initiator-list-entry-info[]	List of initiators logged in

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-modify-chap-params

[top]

Modify CHAP parameters to an existing per-initiator authentication info whose auth-type equals CHAP.

Input Name	Range	Type	Description
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". The per-initiator authentication info must have an auth-type equal to CHAP.
outbound-passphrase		string optional	Outbound CHAP user password. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used.
outbound-user-name		string optional	Outbound CHAP user name. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used.
passphrase		string optional	Inbound CHAP user password. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used.
radius		boolean optional	"true" if RADIUS is the only forced CHAP authentication policy, Default is "false".
remove-outbound		boolean optional	Flag which indicates that mutual CHAP authentication is to be converted to one-way CHAP authentication. Outbound CHAP parameters must not be specified when remove-outbound is true. The default value is false.
user-name		string optional	Inbound CHAP user name. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECINVALIDAUTHTYPE	
EISCSISECPROCESSINGERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-set-default-auth

[top]

Configure the default authentication method. If an initiator is not configured with a specific authentication method using iscsi-initiator-add-auth the default authentication method will be applied to it.

Input Name	Range	Type	Description
auth-type		string	Possible values: "CHAP", "none", "deny".
outbound-passphrase		string optional	Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
outbound-user-name		string optional	Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
passphrase		string optional	Inbound CHAP user password, required for auth-type equal to CHAP.
radius		boolean optional	"true" if RADIUS is the only forced CHAP authentication policy, Default is "false".
user-name		string optional	Inbound CHAP user name, required for auth-type equal to CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-accesslist-add

[top]

Add the iSCSI LIFs to the accesslist of the specified initiator

Input Name	Range	Type	Description
initiator		string	Initiator that can access the iSCSI LIFs
interface-name		string	iSCSI LIF Name

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-interface-accesslist-get-iter

[top]

Iterate over a list of iSCSI Interface Accesslist objects.

Input Name	Range	Type	Description
desired-		iscsi-interface-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		accesslist-entry-info optional	present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-interface-accesslist-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Interface Accesslist object. All iSCSI Interface Accesslist objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-interface-accesslist-entry-info[] optional	The list of attributes of iSCSI Interface Accesslist objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Interface Accesslist objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-interface-accesslist-remove

[top]

Remove the iSCSI LIFs from the accesslist of the specified initiator

Input Name	Range	Type	Description
initiator		string	Initiator that can access the iSCSI LIFs
interface-name		string	iSCSI LIF Name

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-interface-disable

[top]

Disables an interface for use by iSCSI

Input Name	Range	Type	Description

Input Name	Range	Type	Description
interface-name		string	Name of interface to disable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINVALIDSTATE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-enable

[top]

Enables an interface for use by iSCSI

Input Name	Range	Type	Description
interface-name		string	Name of interface to enable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINVALIDSTATE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-get-iter

[top]

Iterate over a list of iSCSI target interface objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-interface-list-entry-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		info optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-interface-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI target interface object. All iSCSI target interface objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-interface-list-entry-info[] optional	The list of attributes of iSCSI target interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI target interface objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-interface-list-info

[top]

Gives status of interface for iSCSI

Input Name	Range	Type	Description
interface-name		string optional	Name of interface to report; if not supplied, all interfaces are listed. For example: "e0c".

Output Name	Range	Type	Description
iscsi-interface-list-entries		iscsi-interface-list-entry-info[]	List of interfaces and enabled/disabled status

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-modify

[top]

Modify the attributes of an iSCSI interface object.

Input Name	Range	Type	Description
interface-name		lif-name	Specifies the logical interface (LIF) name.
sendtargets-fqdn		string optional	Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets Discovery.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-iptpgroup-create

[top]

Create a new IP-based tpgroup

Input Name	Range	Type	Description
iptpgroup-name		string	User-defined name of new target portal group; must be <= 60 bytes, and cannot end with "default" as this might conflict with names of default system portal groups (for example, "192.168.11.12_default" is not allowed)
iptpgroup-tag	**[1..256]**	integer optional	Optional target portal group tag supplied by user; if not supplied, system assigns tag.

Output Name	Range	Type	Description
iptpgroup-tag		integer	filer assigned tag value for newly created portal group

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License

iscsi

iscsi-iptpgroup-destroy

[top]

Destroy a IP-based tpgroup

Input Name	Range	Type	Description
iptpgroup-tag	**[1..256]**	integer	tag of portal group to destroy

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-iptpgroup-ipaddr-add

[top]

Add an IP Address to an IP-based target portal group

Input Name	Range	Type	Description
ip-addr		ip-address	The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12").
iptpgroup-tag	**[1..256]**	integer	portal group tag

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-iptpgroup-ipaddr-delete

[top]

Delete an IP Address from an IP-based target portal group

Input Name	Range	Type	Description
ip-addr		ip-address	The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12").
iptpgroup-tag	**[1..256]**	integer	portal group

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-iptpgroup-list-info

[top]

List information about IP-based target portal groups

Input Name	Range	Type	Description
iptpgroup-tag	**[1..256]**	integer optional	Portal group being queried; if not supplied, information on all portal groups is returned

Output Name	Range	Type	Description
iscsi-iptpgroup-list-entries		iscsi-iptpgroup-list-entry-info[]	List of iptpgroups

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-config

[top]

Configures the iSNS service. In Data ONTAP Cluster-Mode, this this API can only modify the configuration of a Vserver where an iSNS service has already been created. To create an iSNS service in a Vserver where one does not exist, use the iscsi-isns-create API.

Input Name	Range	Type	Description
force		boolean optional	iSNS config fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to "true".
isns-ip-addr		ip-address	The ip address, in dotted-decimal format, of the iSNS server with which to register. (for example, "192.168.11.12").

Errno	Description
ENOTSTARTED	
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-create

[top]

Create iSNS Service in a Vserver.

Input Name	Range	Type	Description
force		boolean optional	iSNS create fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to true.
isns-ip-addr		ip-address	iSNS server IP address.
start		boolean optional	Determine the initial state of the iSNS Client Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-isns-start to start the service. The default is true.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-isns-destroy

[top]

Destroy the iSNS Service in a Vserver.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-isns-get-info

[top]

Gets iSNS service configuration.

Output Name	Range	Type	Description
is-isns-enabled		boolean	"true" if iSNS service is running, "false" otherwise.
isns-entity-id		string	Name of the entity id existing on the iSNS server in which to register.
isns-ip-addr		ip-address	The ip address of the iSNS server in which we register.
last-successful-update		integer optional	Last successful iSNS update time in seconds since January 1, 1970.
last-update-attempt		integer optional	Last iSNS update attempt time in seconds since January 1, 1970.
last-update-result		string optional	Result of the last iSNS update.

Errno	Description
ENOTSTARTED	
EAPILICENSE	
EAPIERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-get-iter

[top]

Gets iSNS service configuration.

Input Name	Range	Type	Description
desired-attributes		iscsi-isns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-**	integer	The maximum number of records to return in this call. Default: 20

	1]	optional	
query		iscsi-isns-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI iSNS Service object. All iSCSI iSNS Service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-isns-info[] optional	The list of attributes of iSCSI iSNS Service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI iSNS Service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-isns-start

[top]

Start iSNS service. The service will be available once the call returns with success.

Errno	Description
EALREADYSTARTED	
EAPILICENSE	
ENOTSTARTED	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-stop

[top]

Stops iSNS service. Service will not be available once the call returns with success.

Errno	Description
ENOTSTARTED	
EAPILICENSE	

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-update

[top]

Forces iSNS service to update server.

Errno	Description
ENOTSTARTED	
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-node-get-name

[top]

Return the current iscsi node name.

Output Name	Range	Type	Description
node-name		string	Current iscsi node name.

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-node-set-name

[top]

Set the current iscsi node name.

Input Name	Range	Type	Description
node-name		string	New iscsi node name; must be <= 128 chars, and conform to iSCSI rules

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EVDISK_ERROR_DUPLICATE_TARGET_NAME	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-portal-list-info

[top]

list iscsi portals

Output Name	Range	Type	Description
iscsi-portal-list-entries		iscsi-portal-list-entry-info[]	List of portals

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-reset-stats

[top]

zero filer iscsi counters

Errno	Description
EAPILICENSE	

License
iscsi

iscsi-service-create

[top]

Create an iSCSI Service in a Vserver. Each Vserver requires an online iSCSI Service in order to serve data via the iSCSI protocol.

Input Name	Range	Type	Description
alias-name		string optional	The iSCSI target alias for the iSCSI service. If not provided, the Vserver name will be used.
node-name		string optional	The iSCSI target name for the Vserver. The target-name must conform to RFC 3720. If not provided, one will be auto-generated.
start		boolean optional	Determine the initial state of the iSCSI Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-service-start to start the service. The default is true.

Output Name	Range	Type	Description
node-name		string	The new iSCSI target name for the Vserver.

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EVDISK_ERROR_DUPLICATE_TARGET_NAME	
EONTAPI_EEXIST	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-service-destroy

[top]

Destroy the iSCSI Service in a Vserver.

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-service-get-iter

[top]

Iterate over the list of iSCSI Services.

Input Name	Range	Type	Description
desired-attributes		iscsi-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-service-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Service object. All iSCSI Service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-service-info[] optional	The list of attributes of iSCSI Service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Service objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-service-modify

[top]

Modify an iSCSI Service in a Vserver.

Input Name	Range	Type	Description
login-timeout		integer optional	Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Range: [5..120].
max-cmds-per-session		integer optional	Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Range: [4..256].
max-conn-per-session		integer optional	Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Range: [1..32].
max-error-recovery-level		integer optional	(DEPRECATED)-Maximum error recovery level. The possible values are: • 0 - session failure recovery. • 1 - digest failure recovery. • 2 - connection failure recovery. This field is DEPRECATED; updates are ignored and have no effect.
retain-timeout		integer optional	Default time-to-retain value in secconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Range: [1,.120].

tcp-window-size		integer optional	TCP receive window size in bytes. Range: [8760..262800].

Errno	Description
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-service-start

[top]

Start iSCSI service. The service will be available once the call returns with success.

Errno	Description
EALREADYSTARTED	
EINTERNALERROR	
EREVERTINPROGRESS	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-service-status

[top]

Get status of the iSCSI service, whether or not it is running.

Output Name	Range	Type	Description
is-available		boolean	"true" if iSCSI service is running, "false" otherwise.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-service-stop

[top]

Stops iSCSI service. Service will be not be available once the call returns with success.

Errno	Description
ENOTSTARTED	
EINTERNALERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-session-get-iter

[top]

Iterate over a list of iSCSI session objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-session-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-session-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI session object. All iSCSI session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-session-list-entry-info[]	The list of attributes of iSCSI session objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-session-list-info

[top]

Gives list of active sessions

Input Name	Range	Type	Description
tsih		integer optional	target session ID handle for specific session

Output Name	Range	Type	Description
iscsi-session-list-entries		iscsi-session-list-entry-info[]	List of active sessions

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-stats-get-iter

[top]

Iterate over a list of iscsi objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iscsi object. All iscsi objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for the

tag		string optional	first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-stats-info[] optional	The list of attributes of iscsi objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iscsi objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-stats-list-info

[top]

return current filer iscsi statistics

Output Name	Range	Type	Description
iscsi-stats		iscsi-stats-info[]	statistics for iscsi

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-target-alias-clear-alias

[top]

Clear the current iscsi target alias

Errno	Description
EAPILICENSE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-target-alias-get-alias

[top]

Return the current iscsi target alias

Output Name	Range	Type	Description
alias-name		string optional	Current iscsi target alias if alias-assigned is true.
is-alias-assigned		boolean	True if alias assigned, false otherwise.

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-target-alias-set-alias

[top]

Set the current iscsi target alias

Input Name	Range	Type	Description
alias-name		string	New iscsi target alias to set; must be 128 bytes or less. Free form format otherwise, although a string of all blanks will be rejected

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-alua-set

[top]

Change the ALUA parameters on a tpgroup Asymmetric Logical Unit Access (ALUA) management Data ONTAP supports SCSI ALUA functionality for managing multi-pathed SCSI devices. ALUA provides a standardized mechanism for path discovery and prioritization. Devices are identified by target port IDs, which are then grouped into target port groups. Each group has a state which, when configured,

enables the host multipathing software to select the appropriate path priorities when accessing a LUN. For iSCSI, ALUA settings are controlled at the target portal group level using the "iscsi-tpgroup-alua-set" ZAPI. A target portal group can be configured to be either "optimized" or "non-optimized"; a host typically uses all the optimized paths before using any non-optimized paths it may find. All target portal groups are optimized by default. There is also an optional "preferred" setting that may be used on a target portal group. Check your host's multi-pathing software documentation to see if it supports ALUA and the preferred setting. ALUA is enabled on Initiator Groups using the "igroup-set-attribute" ZAPI. All LUNs mapped to an ALUA enabled Initiator Group will support the ALUA functionality.

Input Name	Range	Type	Description
tpgroup-alua-preferred		boolean	If "true", target portal group will be marked as preferred for ALUA enabled Initiator Groups
tpgroup-alua-state		string	Possible values: "optimized", "non-optimized"
tpgroup-tag		integer	portal group

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	

License
iscsi

iscsi-tpgroup-create

[top]

Create a new user defined target portal group.

Input Name	Range	Type	Description
tpgroup-name		string	Name of new user defined target portal group. Name must be <= 32 characters. In Data ONTAP 7-Mode, user defined target portal group names cannot end with "default" as this would conflict with names of default target portal groups. In Data ONTAP Cluster-Mode, user defined target portal groups cannot use the name of any defined logical interfaces (LIFs) in the vserver as this would conflict with names of default target portal groups.
tpgroup-tag	**[0..65535]**	integer optional	Optional target portal group tag supplied by user. Default value is system generated.

Output Name	Range	Type	Description
tpgroup-tag	**[0..65535]**	integer	New target portal group tag.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-destroy

[top]

Destroy a tpgroup. Only user defined target portal groups may be destroyed.

Input Name	Range	Type	Description
tpgroup-tag	[0..65535]	integer	Tag of portal group to destroy.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-get-iter

[top]

Iterate over a list of iSCSI Target Portal Group objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-tpgroup-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-tpgroup-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Target Portal Group object. All iSCSI Target Portal Group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		iscsi-tpgroup-	

attributes-list		list-entry-info[] optional	The list of attributes of iSCSI Target Portal Group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Target Portal Group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-tpgroup-interface-add

[top]

Add an interface to a target portal group. Interfaces may only be added to a user defined target portal group.

Input Name	Range	Type	Description
interface-name		string	Name of network interface to add. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
tpgroup-tag	**[0..65535]**	integer	Target portal group tag.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-interface-delete

[top]

Remove an interface from a target portal group. Interfaces may only be removed from a user defined target portal group. Removing an interface will return it to the system defined default group for the interface.

Input Name	Range	Type	Description
interface-name		string	Name of network interface to remove. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1" In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
tpgroup-tag	**[0..65535]**	integer	Target portal group tag.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-list-info

[top]

List information about target portal groups

Input Name	Range	Type	Description
tpgroup-tag		integer optional	Portal group being queried; if not supplied, information on all portal groups is returned

Output Name	Range	Type	Description
iscsi-tpgroup-list-entries		iscsi-tpgroup-list-entry-info[]	List of tpgroups

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

Element definition: **iscsi-adapter-initiators-info**

[top]

A list of initiators currently connected to the adapter.

Name	Range	Type	Description
iscsi-connected-initiators		iscsi-connected-initiator-info[]	Information about the connected initiators
name		string	The name this adapter is given.

Element definition: **iscsi-config-adapter-info**

[top]

Configuration information about a single iscsi adapter.

Name	Range	Type	Description
name		string	The name this adapter is given.
portal-addresses		iscsi-portal-address-info[]	A list of portal group address + port that this adapter is listening on.
state		string	State of the adapter, either "online", "offline", "local", "partner" or "error". "online" and "offline" are used when the adapter is used for the current host. "local" is used if the adapter is operating on behalf of the local host, and "partner" is used if the adapter is operating on behalf of the partner host. "error" is used if an internal error occurred while retrieving the adapter information.
status		string optional	A short status message explaining the state. i.e. if the adapter is offline, the reason for it, or if its "error" what the error is. This will not be returned if the state of the adapter is "online".

Element definition: **iscsi-connection-list-entry-info**

[top]

Information about an iSCSI connection. In Data ONTAP 7-Mode, connections are uniquely identified by the combination of 'session-id' and 'connection-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name', 'session-id' and 'connection-id'.

Name	Range	Type	Description
connection-id	**[0..65535]**	integer	Connection id
			Current state of this connection. Possible values: • "New_Connection",

connection-state		string	• "Waiting_Tpgtag_Assignment", • "Login_Waiting_Req", • "Login_Req_Rcvd", • "Login_Waiting_Auth", • "Login_OK_New_Session_Requested", • "Login_New_Session_Waiting_Reinstatement", • "Login_OK_New_Conn_Requested", • "Login_New_Conn_Waiting_Reinstatement", • "Login_Send_Final_Resp", • "Full_Feature_Phase", • "Shutdown_Start", • "Shutdown_Waiting_Sockio_Shutdown", • "Shutdown_Sockio_Shutdown_Done", • "Shutdown_Waiting_ImmDeliv_FFPCmds_Done", • "Shutdown_ImmDeliv_FFPCmds_Done", • "Shutdown_Recovery_Waiting_FFPCmds_Ready", • "Shutdown_Recovery_Waiting_Logout_Rcvd", • "Shutdown_Recovery_Logout_Rcvd", • "Shutdown_Recovery_Waiting_FFPCmds_Reassigned", • "Shutdown_Terminate_Abort_Seq_FFPCmds", • "Shutdown_Terminate_Waiting_Seq_FFPCmds_Done", • "Shutdown_Terminate_Seq_FFPCmds_Done".
has-session		boolean	True if this connection is associated to a session, false otherwise.
interface-name		string	Name of the network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
local-ip-address		string	Storage System iSCSI Target IP address.
local-ip-port	**[0..65535]**	integer	Storage System iSCSI Target TCP port.
remote-ip-address		string	Remote initiator IP address.
remote-ip-port	**[0..65535]**	integer	Remote initiator TCP port.
session-id	**[0..65535]**	integer	Session id for the associated session, or 0 if this connection is not yet associated to a session.
tpgroup-name		string	The name of the target portal group associated with this session.
tpgroup-tag	**[0..65535]**	integer	The tag of the target portal group associated with this session.
vserver		string	Name of the vserver containing this connection.

Element definition: **iscsi-initiator-list-entry-info**

[top]

Information about a single initiator.

Name	Range	Type	Description
initiator-aliasname		string optional	User-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login.
initiator-		initiator-group-list-	List of initiator groups containing this iSCSI initiator.

group-list		info[] optional	
initiator-nodename		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".
isid		string	ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00".
target-session-id	**[0..65535]**	integer	iSCSI session identifier assigned by the target.
tpgroup-name		string	The name of the target portal group associated with this session.
tpgroup-tag	**[0..65535]**	integer	Tag of target portal group associated with this session.
vserver		string	Name of the vserver this initiator is connected to.

Element definition: **iscsi-interface-accesslist-entry-info**

[top]

Information about a single accesslist entry When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
initiator		string optional	Initiator that can access the iSCSI LIFs Attributes: key, non-creatable, non-modifiable
interface-name		string optional	iSCSI LIF Name Attributes: key, non-creatable, non-modifiable
vserver		string optional	Vserver hosting the iSCSI LIF Attributes: key, non-creatable, non-modifiable

Element definition: **iscsi-interface-list-entry-info**

[top]

Information about a single interface

Name	Range	Type	Description
current-node		string	Name of the node currently hosting the LIF.
current-port		string	Name of the physical ethernet interface currently hosting the LIF.
interface-name		string	Name of interface. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
ip-address		string	iSCSI target portal IP address.
ip-port	**[0..65535]**	integer	iSCSI target portal TCP port.

is-interface-enabled		boolean	"true" if interface enabled for iSCSI, "false" otherwise.
relative-port-id	**[1..65535]**	integer	The SCSI Relative Target Port Identifier of the LIF.
sendtargets-fqdn		string optional	Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets discovery. If unset, the IP address of the LIF is used instead.
tpgroup-name		string	Name of target portal group interface is associated with.
tpgroup-tag	**[0..65535]**	integer	Id of target portal group interface is associated with.
vserver		string optional	The name of the vserver containing this iSCSI data LIF.

Element definition: **iscsi-iptpgroup-list-entry-info**

[top]

Information about a single portal group

Name	Range	Type	Description
ipaddress-list-entries		ipaddress-list-entry-info[]	List of IP Addresses associated with this iptpgroup
tpgroup-name		string	Portal group name
tpgroup-tag		integer	Portal group tag

Element definition: **iscsi-isns-info**

[top]

iSCSI iSNS Service Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-isns-enabled		boolean optional	true if the iSNS Service is running, false otherwise. Attributes: optional-for-create, non-modifiable
isns-entity-id		string optional	Entity id existing on the iSNS server Attributes: non-creatable, non-modifiable
isns-ip-addr		ip-address optional	iSNS server IP address. Attributes: required-for-create, modifiable
last-successful-update		integer optional	Last successful iSNS update time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
last-update-attempt		integer optional	Last iSNS update attempt time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable

last-update-result		string optional	Result of the last iSNS update. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver hosting the iSNS service. Attributes: key, non-creatable, non-modifiable

Element definition: **iscsi-portal-list-entry-info**

[top]

information about a single portal

Name	Range	Type	Description
interface-name		string	Name of network interface exporting this portal
ip-address		string	portal IP address
ip-port	**[0..65535]**	integer	portal listening port
tpgroup-tag	**[0..65535]**	integer	tag of portal group this portal is associated with

Element definition: **iscsi-security-entry-info**

[top]

Information about a single authentication entry.

Name	Range	Type	Description
auth-chap-policy		string optional	CHAP authentication path. Possible values: "local", "radius".
auth-type		string	Authentication type. Possible values: "CHAP", "none", "deny".
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346", or "default" if this is a default auth entry.
initiator-address-ranges		ip-range-or-mask[] optional	May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address. An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.
outbound-user-name		string optional	Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator.
user-name		string optional	Inbound CHAP user name, returned only if auth-type is CHAP.
vserver		string	Vserver containing this authentication information.

Element definition: **iscsi-service-info**

[top]

iSCSI Target Service Configuration. When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alias-name		string optional	The iSCSI target alias of the Vserver. Attributes: optional-for-create, modifiable
is-available		boolean optional	true if the iSCSI Service is running, false otherwise. Attributes: non-creatable, non-modifiable
login-timeout	**[5..120]**	integer optional	Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Attributes: optional-for-create, modifiable
max-cmds-per-session	**[4..256]**	integer optional	Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable
max-conn-per-session	**[1..32]**	integer optional	Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable
max-error-recovery-level	**[0..2]**	integer optional	(DEPRECATED)-Maximum error recovery level. The possible values are: • 0 - session failure recovery. • 1 - digest failure recovery. • 2 - connection failure recovery. Attributes: optional-for-create, modifiable
node-name		string optional	The iSCSI target name of the Vserver. Attributes: optional-for-create, modifiable
retain-timeout	**[1..120]**	integer optional	Default time-to-retain value in seconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Attributes: optional-for-create, modifiable
tcp-window-size	**[8760..262800]**	integer optional	TCP receive window size in bytes. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver hosting the iSCSI service. Attributes: key, non-creatable, non-modifiable

Element definition: **iscsi-session-list-entry-info**

[top]

Information about a single iSCSI session. In Data ONTAP 7-Mode, sessions are uniquely identified by the 'target-session-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name' and 'target-session-id'.

Name	Range	Type	Description
cmd-window-size	**[0..2^31-1]**	integer	The maximum number of I/O operations per session. This field has been superseded by max-ios-per-session starting with Data ONTAP 8.3 and is retained for compatibility.

data-pdu-in-order		boolean	The DataPDUInOrder of the session as defined in RFC 3720.
data-sequence-in-order		boolean	The DataSequenceInOrder of the session as defined in RFC 3720.
default-time-to-retain	**[0..3600]**	integer	The DefaultTime2Retain of the session as defined in RFC 3720, in seconds.
default-time-to-wait	**[0..3600]**	integer	The DefaultTime2Wait of the session as defined in RFC 3720, in seconds.
error-recovery-level	**[0..2]**	integer	iSCSI ErrorRecoveryLevel as defined in RFC 3720.
first-burst-length	**[512..2^24-1]**	integer	The FirstBurstLength of the session as defined in RFC 3720, in bytes.
immediate-data-enabled		boolean	True if this session has immediate data enabled, false otherwise.
initial-r2t-enabled		boolean	True if this session has R2T enabled, false otherwise.
initiator-aliasname		string optional	The user-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login.
initiator-nodename		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".
iscsi-session-connection-list-entries		iscsi-session-connection-list-entry-info[] optional	List of TCP/IP connections associated with this session.
iscsi-sesssion-cmd-list-entries		iscsi-sesssion-cmd-list-entry-info[] optional	List of active commands associated with this session
isid		string	ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00".
max-burst-length	**[512..2^24-1]**	integer	The MaxBurstLength of the session as defined in RFC 3720, in bytes.
max-connections	**[0..65535]**	integer	Maximum number of connections for this session.
max-ios-per-session	**[0..2^31-1]**	integer	The maximum number of I/O operations per session. This field is available in Data ONTAP 8.3 and later.
max-outstanding-r2t	**[1..65535]**	integer	The MaxOutstandingR2T of the session as defined in RFC 3720.
session-type		string	Possible values: "normal" or "discovery".
target-session-id	**[0..65535]**	integer	The iSCSI session identifier assigned by the storage system.
tpgroup-name		string	The name of the target portal group associated with this session.
tpgroup-tag	**[0..65535]**	integer	The tag of the target portal group associated with this session.
vserver		string	The name of the vserver containing this session.

Element definition: **iscsi-stats-info**

[top]

Statistics block

Name	Range	Type	Description
iscsi-cdb-stats		iscsi-cdb-stats-info	Statistics of Command Descriptor Blocks.
iscsi-error-stats		iscsi-error-stats-info	Statistics of errors.
iscsi-received-stats		iscsi-received-stats-info	Statistics of PDUs received.
iscsi-transmitted-stats		iscsi-transmitted-stats-info	Statistics of PDUs transmitted.
vserver		string	Vserver hosting the iSCSI service.

Element definition: **iscsi-tpgroup-list-entry-info**

[top]

Information about a single portal group

Name	Range	Type	Description
interface-list-entries		interface-list-entry-info[] optional	List of interfaces associated with this tpgroup.
is-user-defined		boolean	True if the target portal group is user defined, false if the target portal group is system defined.
tpgroup-alua-preferred		boolean optional	True if target portal group is the preferred group for ALUA enabled initiator groups, false otherwise.
tpgroup-alua-state		string optional	Possible values: "optimized", "non-optimized".
tpgroup-name		string	Portal group name.
tpgroup-tag		integer	Portal group tag.
vserver		string optional	Vserver containing this target portal group.

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

Name	Range	Type	Description
initiator-group-name		string	Name of initiator group.

Element definition: **interface-list-entry-info**

[top]

Information about a single interface

Name	Range	Type	Description
interface-name		string	Name of network interface. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif0". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

Element definition: **ipaddress-list-entry-info**

[top]

Information about a single IP Address

Name	Range	Type	Description
ip-address		string	IP address

Element definition: **iscsi-cdb-stats-info**

[top]

Counts for Command Descriptor Blocks processed

Name	Range	Type	Description
data-in-blocks		integer	Count of data in blocks.
data-out-blocks		integer	Count of data out blocks.

error-status		integer	Count of errors.
success-status		integer	Count of successes.
total		integer	Total Command Descriptor Blocks processed.

Element definition: **iscsi-connected-initiator-info**

[top]

Information about an initiator connected to an iSCSI adapter.

Name	Range	Type	Description
initiator-name		string	Name of initiator.
isid		string	ISID in form of "xx:xx:xx:xx:xx:xx".
portal-group-id		integer	Target portal group number to which the initiator is connected.

Element definition: **iscsi-error-stats-info**

[top]

Counts for iSCSI errors.

Name	Range	Type	Description
data-digest		integer	Count of digest errors.
failed-logins		integer	Count of failed logins.
failed-logouts		integer	Count of failed logouts.
failed-task-mgt		integer	Count of failed management tasks.
failed-text-cmd		integer	Count of failed text commands.
hdr-digest		integer	Count of digest errors.
invalid-header		integer	Count of PDU discards due to invalid PDU header.
outside-cmd-sn-window		integer	Count of PDU discards due to PDU being outside of command sequence number window.
protocol		integer	Count of protocol errors.
total		integer	Total errors.

Element definition: **iscsi-portal-address-info**

[top]

Configuration information about an inet-address and port pair for a portal group.

Name	Range	Type	Description
id		integer	ID of this portal group.
inet-address		ip-address	inet-address.
port		integer	The port that is being listened on for that address.

Element definition: **iscsi-received-stats-info**

[top]

Counts for PDUs received.

Name	Range	Type	Description
data-out		integer	Count of data out requests.
login-req		integer	Count of login requests.
logout-req		integer	Count of logout requests.
nop-out		integer	Count of NOP Out.
scsi-cmd		integer	Count of SCSI commands.
scsi-task-mgt-cmd		integer	Count of SCSI task management commands.
snack		integer	Count of SNACK requests.
text-req		integer	Count of text requests.
total		integer	Total PDUs received.
unknown		integer	Count of unknown PDUs.

Element definition: **iscsi-session-connection-list-entry-info**

[top]

Information about a single tcp connection

Name	Range	Type	Description
authentication-method		string	Authentication method of this connection. Possible values: "CHAP", "none".
connection-id	**[0..65535]**	integer	Connection id within the session.
data-digest-enabled		boolean	True if data digests are enabled on this connection, false otherwise.
header-digest-enabled		boolean	True if header digests are enabled on this connection, false otherwise.
initiator-max-rcv-data-segment-length	**[512..2^24-1]**	integer	Initiator's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes.
interface-name		string	Name of network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
local-ip-address		string	Local storage system iSCSI target interface address.
local-ip-port	**[0..65535]**	integer	Local storage system iSCSI target TCP port.
rcv-window-size	**[0..2^30]**	integer	TCP/IP receive window size, in octets.
remote-ip-address		string	Remote initiator IP address.
remote-ip-port	**[0..65535]**	integer	Remote initiator TCP port.
target-max-rcv-data-segment-length	**[512..2^24-1]**	integer	Target's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes.

Element definition: **iscsi-sesssion-cmd-list-entry-info**

[top]

information about a particular command

Name	Range	Type	Description
cmd-state		string	State of iSCSI command. Possible values: • "FREE" - Free, • "Logout_Begin" - Logout - Begin, • "Logout_Wait_For_Other_Conn" - Logout - Wait For Other Conn, • "Logout_Build_and_Send_Resp" - Logout - Build and Send Resp, • "Logout_Waiting_StatSN_ACK" - Logout - Waiting StatSN ACK, • "Logout_Done" - Logout - Done, • "Nopout_Begin" - Nopout - Begin, • "Nopout_Build_And_Send_Resp" - Nopout - Build And Send Resp, • "Nopout_Waiting_Resp_Sockio_Comp" - Nopout - Waiting Resp Sockio Comp, • "Nopout_Resp_Sockio_Comp" - Nopout - Resp Sockio Comp, • "Nopout_Waiting_StatSN_ACK" - Nopout - Waiting StatSN ACK, • "Nopout_Done" - Nopout - Done, • "Taskmgmt_Begin" - Taskmgmt - Begin, • "Taskmgmt_Waiting_FFPCmds_Rcvd" - Taskmgmt - Waiting FFPCmds Rcvd, • "Taskmgmt_FFPCmds_Rcvd" - Taskmgmt - FFPCmds Rcvd, • "Taskmgmt_Waiting_FFPCmds_Complete" - Taskmgmt - Waiting FFPCmds Complete, • "Taskmgmt_Build_And_Send_Resp" - Taskmgmt - Build And Send Resp, • "Taskmgmt_Waiting_StatSN_ACK" - Taskmgmt - Waiting StatSN ACK, • "Taskmgmt_Done" - Taskmgmt - Done, • "Text_Begin" - Text - Begin, • "Text_Waiting_Portal_List_Notify" - Text - Waiting Portal List Notify, • "Text_Build_And_Send_Resp" - Text - Build And Send Resp, • "Text_Waiting_Resp_Sockio_Comp" - Text - Waiting Resp Sockio Comp, • "Text_Resp_Sockio_Comp" - Text - Resp Sockio Comp, • "Text_Waiting_StatSN_ACK" - Text - Waiting StatSN ACK, • "Text_Done" - Text - Done, • "Scsicdb_Begin" - Scsicdb - Begin, • "Scsicdb_Claim_Early_Udata" - Scsicdb - Claim Early Udata, • "Scsicdb_Waiting_Udata_Rcvd" - Scsicdb - Waiting Udata Rcvd, • "Scsicdb_Udata_Rcvd" - Scsicdb - Udata Rcvd, • "Scsicdb_Ready_For_STSubmit" - Scsicdb - Ready For STSubmit, • "Scsicdb_Udata_Not_Rcvd" - Scsicdb - Udata Not Rcvd, • "Scsicdb_Udata_Waiting_Task_Reassignment" - Scsicdb - Udata Waiting Task Reassignment, • "Scsicdb_Udata_Task_Reassigned" - Scsicdb - Udata Task Reassigned, • "Scsicdb_Waiting_STLayer" - Scsicdb - Waiting STLayer, • "Scsicdb_RD_STLayer_Called" - Scsicdb - RD STLayer Called, • "Scsicdb_RD_Build_And_Send_R2T" - Scsicdb - RD Build And Send R2T, • "Scsicdb_RD_Waiting_Burst" - Scsicdb - RD Waiting Burst, • "Scsicdb_RD_Burst_Rcvd" - Scsicdb - RD Burst Rcvd, • "Scsicdb_RD_Done" - Scsicdb - RD Done, • "Scsicdb_RD_Burst_Not_Rcvd" - Scsicdb - RD Burst Not Rcvd, • "Scsicdb_RD_Waiting_Task_Reassignment" - Scsicdb - RD Waiting Task Reassignment,

			• "Scsicdb_RD_Task_Reassigned" - Scsicdb - RD Task Reassigned, • "Scsicdb_SD_STLayer_Called" - Scsicdb - SD STLayer Called, • "Scsicdb_SD_XDI_Done" - Scsicdb - SD XDI Done, • "Scsicdb_SD_Waiting_DataSN_ACK" - Scsicdb - SD Waiting DataSN ACK, • "Scsicdb_SD_Done" - Scsicdb - SD Done, • "Scsicdb_SD_SNACK_Rcvd" - Scsicdb - SD SNACK Rcvd, • "Scsicdb_SD_Task_Reassigned" - Scsicdb - SD Task Reassigned, • "Scsicdb_SR_STLayer_Called" - Scsicdb - SR STLayer Called, • "Scsicdb_SR_Build_And_Send_Resp" - Scsicdb - SR Build And Send Resp, • "Scsicdb_SR_Waiting_StatSN_ACK" - Scsicdb - SR Waiting StatSN ACK, • "Scsicdb_SR_Done" - Scsicdb - SR Done, • "Scsicdb_SR_SNACK_Rcvd" - Scsicdb - SR SNACK Rcvd, • "Scsicdb_SR_Task_Reassigned" - Scsicdb - SR Task Reassigned, • "Scsicdb_SR_XDI_Done" - Scsicdb - SR XDI Done, • "Scsicdb_SDR_STLayer_Called" - Scsicdb - SDR STLayer Called, • "Scsicdb_SDR_XDI_Done" - Scsicdb - SDR XDI Done, • "Scsicdb_SDR_Waiting_StatSN_ACK" - Scsicdb - SDR Waiting StatSN ACK, • "Scsicdb_SDR_Done" - Scsicdb - SDR Done, • "Scsicdb_SDR_SNACK_Rcvd" - Scsicdb - SDR SNACK Rcvd, • "Scsicdb_SDR_Task_Reassigned" - Scsicdb - SDR Task Reassigned, • "Scsicdb_Abort_Begin" - Scsicdb - Abort Begin, • "Scsicdb_Abort_Build_And_Send_Resp" - Scsicdb - Abort Build And Send Resp, • "Scsicdb_Abort_Waiting_StatSN_ACK" - Scsicdb - Abort Waiting StatSN ACK, • "Scsicdb_Abort_Done" - Scsicdb - Abort Done, • "Scsicdb_Abort_SNACK_Rcvd" - Scsicdb - Abort SNACK Rcvd, • "Scsicdb_Abort_Task_Reassigned" - Scsicdb - Abort Task Reassigned, • "Scsicdb_Abort_XDI_Done" - Scsicdb - Abort XDI Done, • "Scsicdb_QFull_Begin" - Scsicdb - QFull Begin, • "Scsicdb_QFull_Build_And_Send_Resp" - Scsicdb - QFull Build And Send Resp, • "Scsicdb_QFull_Waiting_StatSN_ACK" - Scsicdb - QFull Waiting StatSN ACK, • "Scsicdb_QFull_Done" - Scsicdb - QFull Done, • "Scsicdb_XDI_Start" - Scsicdb - XDI Start, • "Scsicdb_XDI_Waiting_Data_In_Sockio_Comp" - Scsicdb - XDI Waiting Data In Sockio Comp, • "Scsicdb_Waiting_Scsitgt_Abort" - Scsicdb - Waiting Scsitgt Abort, • "Done" - Done.
cmd-sub-id	**[0..2^32-1]**	integer	Variety specific sub-id.
cmd-type		string	Type of command being executed. Possible values: • "Seq", • "ITM", • "Oth", • "UNK".

Element definition: **iscsi-transmitted-stats-info**

[top]

Counts for PDUs transmitted.

Name	Range	Type	Description
async-msg		integer	Count of asynchronous iSCSI messages.
data-in		integer	Count of data in PDUs.
login-rsp		integer	Count of login responses.
logout-rsp		integer	Count of logout responses.
nop-in		integer	Count of NOP In.
ready-to-transmit		integer	Count of ready to transmit PDUs
reject		integer	Count of reject PDUs.
scsi-rsp		integer	Count of scsi responses.
scsi-task-mgt-rsp		integer	Count of scsi task management responses.
text-rsp		integer	Count of text responses.
total		integer	Total PDUs transmitted.

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

APIs in Category: **job**

job-by-node-get
job-by-node-get-iter
job-completed-get
job-completed-get-iter
job-get
job-get-iter
job-history-get
job-history-get-iter
job-pause
job-pause-iter
job-private-completed-get
job-private-completed-get-iter
job-private-get
job-private-get-iter
job-private-pause
job-private-pause-iter
job-private-resume
job-private-resume-iter
job-private-soft-pause
job-private-soft-pause-iter
job-private-stop
job-private-stop-iter
job-queue-config-get
job-queue-config-modify
job-resume
job-resume-iter
job-schedule-cron-create
job-schedule-cron-destroy
job-schedule-cron-destroy-iter
job-schedule-cron-get
job-schedule-cron-get-iter
job-schedule-cron-modify
job-schedule-get
job-schedule-get-iter
job-schedule-interval-create
job-schedule-interval-destroy
job-schedule-interval-destroy-iter
job-schedule-interval-get
job-schedule-interval-get-iter
job-schedule-interval-

Cluster management requires that certain operations run reliably, asynchronously and on particular schedules. These 'jobs' offer these benefits to the work they manage:

- Guaranteed execution, even in the face of node failure or reboot.
- Cluster-wide or node-specific scheduling. This permits jobs to execute where it makes the most sense.
- Flexible scheduling as a one time event, on regular intervals or coordinated to specific calendar dates.

On their exterior, jobs are a fundamentally simple concept. A job is a task that executes at a specific time. Around this idea, there are extended attributes that control if the job will be automatically re-scheduled upon completion, survive major system failures, run under which priority and so on. But in a healthy cluster with little activity, all jobs appear very similarly. The job APIs are generally comprised of those that enumerate and act upon jobs in the system and those that allow schedule customization. It should be noted that there are no APIs that allow one to explicitly create jobs. This is intentional as jobs are used to manage internal system workload. Jobs are responsible for activities like moving a volume, scanning for viruses or automatically taking snapshots as opposed to being a generic administrative process scheduler.

Every job is described specifically by its type, id, affinity, visibility and schedule. Both the job type and id are represented by unique universal identifiers (UUIDs). All jobs of a given type will perform the same task, usually with different runtime data. For instance a volume move operation is one type of job, but can be used for many different volumes. Job id is a specific instance of a job type. In the example above three different volume move jobs would have the same type but three different job ids. Jobs are also sometimes identified by a monotonically increasing numeric value, although this is often just a shorthand notation for the UUID. Affinity describes whether a job may be scheduled for execution on any node in the cluster (cluster) or must be tied to a specific compute instance (node). Visibility dictates whether a job's state is stored in the cluster-wide replicated database (public) or only on the node on which it is scheduled for execution (private). Finally a job schedun abstract concept like when the system starts up or based upon a calendar date or interval between executions of the same job.

Jobs always execute as small state machines with a definitive current state as well as a specific list of states the job may enter at any point in time. A job can be in one of the following states:

- Initial - job has been created but not queued yet
- Queued - job is in the queue; it could be ready to run immediately or it may be scheduled to run at a later time
- Running - the job has been picked by an instance of the Job Manager and is running
- Waiting - the job is waiting for another job to complete
- Pausing - the job is in the process of pausing after being

modify
job-soft-pause
job-soft-pause-iter
job-stop
job-stop-iter

requested to pause
- Paused - the job is indefinitely paused
- Quitting - the job has been requested to terminate and it is shutting down
- Success - the job has successfully completed and the results are available
- Failure - the job has failed
- Reschedule - the job is being re-scheduled
- Error - internal error occurred
- Quit - the job has been requested to terminate
- Dead - the job exceeded the drop dead time and is being removed from the queue
- Unknown - the state of the job is unknown
- Restart - the job is restartable
- Dormant - the job is inactive while waiting on some external event

Internally, the job execution engine organizes jobs of similar states into common queues. Queues are processed according to the rules of the state. For example, jobs in the wait queue are only periodically checked to determine if their waiting condition is met, whereas jobs in the running queue are actively processed as CPU capacity permits.

These APIs allow for job enumeration, schedule creation and low-level management. The most common enumeration APIs are job-get, job-private-get and job-history-get, while the more specific APIs like job-by-node-get act on a subset of the job-get result set once it has been suitable filtered and/or sorted.

Schedules may either occur at well-defined calendar dates or on a given interval between job executions. Use of the low-level APIs should be attempted with care as they can cause the jobs to behave abnormally or fail.

job-by-node-get

[top]

Get a single job entry. This is just a performance optimization for job-get that only searches for the job among the ones currently owned by the given node.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	The job id.
job-node		node-name	The name of the node where the job is run.

Output Name	Range	Type	Description
attributes		job-info	The attributes of the job-by-node entry.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	

job-by-node-get-iter

[top]

Get multiple job records organized by node. This is just a performance optimization for job-get-iter that only searches for the job among the ones currently owned by the given node.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-by-node entry object. All job-by-node entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of job-by-node entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-by-node entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-completed-get

[top]

Get a single completed job entry. This is just a performance optimization for job-get.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	Job ID

Output Name	Range	Type	Description

attributes		job-info	The attributes of the job completed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-completed-get-iter

[top]

Get multiple completed job records. This is just a performance optimization for job-get-iter.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job completed object. All job completed objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of job completed objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job completed objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-get

[top]

Get a single job entry.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	The job id.

Output Name	Range	Type	Description
attributes		job-info	The attributes of the job.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-get-iter

[top]

Get multiple job records.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job object. All job objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of job objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-history-get

[top]

Get a single job history event.

Input Name	Range	Type	Description
desired-attributes		job-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

job-node		node-name	The name of the node where the job ran, or the node that changed the job's state.
log-id	**[0..2^64-1]**	integer	The internal identifier of this job history event.

Output Name	Range	Type	Description
attributes		job-history-info	The attributes of the job history event.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-history-get-iter

[top]

Get multiple job history records.

Input Name	Range	Type	Description
desired-attributes		job-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 100
query		job-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job history event object. All job history event objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-history-info[] optional	The list of attributes of job history event objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job history event objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-pause

[top]

Pause a job. A job must be of a type that has job-type-is-pausible set to true before it may be paused. Once notified of a pause request, a job should stop performing work until it is subsequently resumed.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-pause-iter

[top]

Pause a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-pause-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
	[0..2^32-	integer	The number of job objects that matched the query, but were not

num-failed	**1]**	optional	operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job objects that matched the query and were successfully processed.
success-list		job-pause-iter-info[] optional	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-completed-get

[top]

Get a single completed, private job entry. This is just a performance optimization for job-private-get.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Output Name	Range	Type	Description
attributes		job-info	The attributes of the private job completion entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-completed-get-iter

[top]

Get multiple completed, private job records. This is just a performance optimization for job-private-get-iter.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the private job completion

		optional	entry object. All private job completion entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of private job completion entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more private job completion entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-private-get

[top]

Get a single private job entry.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Output Name	Range	Type	Description
attributes		job-info	The attributes of the private job.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-get-iter

[top]

Get multiple private job records.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

			will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the private job object. All private job objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of private job objects.
next-tag		string optional	Tag for the next call. Not present when there are no more private job objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-private-pause

[top]

Pause a private job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-pause-iter

[top]

Pause a collection of private jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-pause-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-pause-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-resume

[top]

Resume a job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID

job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-resume-iter

[top]

Resume a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-resume-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of private job objects that matched the query, but were not operated on due some error.

num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-resume-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-soft-pause

[top]

Soft pause a private job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-soft-pause-iter

[top]

Soft pause a collection of private jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
			If set to true, the API will return the list of private job objects (just

return-failure-list		boolean optional	keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-soft-pause-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-soft-pause-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-stop

[top]

Stop a job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-stop-iter

[top]

Stop a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-stop-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-stop-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-queue-config-get

[top]

Get the job queue configuration

Input Name	Range	Type	Description
desired-attributes		job-queue-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		job-queue-config-info	The attributes of the job-queue-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-queue-config-modify

[top]

Modify the job queue configuration

Input Name	Range	Type	Description
job-queue-config-jobs-per-type-threshold	**[0..100]**	integer optional	Threshold for accepted jobs per type.
job-queue-config-queue-size-limit	**[0..2^32-1]**	integer optional	Job queue size limit.
job-queue-config-warning-threshold	**[0..100]**	integer optional	Warning threshold for total number of jobs.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-resume

[top]

Resume a job from the paused state.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-resume-iter

[top]

Resume a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-resume-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of job objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of job objects that matched the query and were successfully processed.
success-list		job-resume-iter-	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

		info[] optional	

Errno	Description
EINTERNALERROR	

job-schedule-cron-create

[top]

Create a new cron job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-cron-day		cron-day-of-month[] optional	The day(s) of the month when the job should be run.
job-schedule-cron-day-of-week		cron-day-of-week[] optional	The day(s) in the week when the job should be run.
job-schedule-cron-hour		cron-hour[] optional	The hour(s) of the day when the job should be run.
job-schedule-cron-minute		cron-minute[]	The minute(s) of each hour when the job should be run.
job-schedule-cron-month		cron-month[] optional	The month(s) when the job should be run.
job-schedule-name		string	The name of the job schedule.
return-record		boolean optional	If set to true, returns the job-schedule-cron on successful creation. Default: false

Output Name	Range	Type	Description
result		job-schedule-cron-info optional	The job-schedule-cron created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-cron-destroy

[top]

Delete a single cron job schedule entry. The entry must not be in use.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Errno	Description
E_SCHEDULE_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-cron-destroy-iter

[top]

Delete multiple cron job schedule entries. The entries must not be in use.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job-schedule-cron objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous job-schedule-cron fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous matching job-schedule-cron fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job-schedule-cron objects to delete in this call. Default: 100
query		job-schedule-cron-info	If deleting a specific job-schedule-cron, this input element must specify all keys. If deleting multiple job-schedule-cron objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job-schedule-cron objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-cron objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job-schedule-cron objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-cron objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
		job-	

failure-list		schedule-cron-destroy-iter-info[] optional	Information about job-schedule-cron objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job-schedule-cron objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of job-schedule-cron objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job-schedule-cron objects that matched the query and were successfully deleted.
success-list		job-schedule-cron-destroy-iter-info[] optional	The job-schedule-cron objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

job-schedule-cron-get

[top]

Get a single cron job schedule entry.

Input Name	Range	Type	Description
desired-attributes		job-schedule-cron-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Output Name	Range	Type	Description
attributes		job-schedule-cron-info	The attributes of the job-schedule-cron.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-schedule-cron-get-iter

[top]

Get multiple cron job schedule entries.

Input Name	Range	Type	Description
desired-attributes		job-schedule-cron-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 100
query		job-schedule-cron-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-cron object. All job-schedule-cron objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-schedule-cron-info[] optional	The list of attributes of job-schedule-cron objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-schedule-cron objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-schedule-cron-modify

[top]

Modify an existing cron job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-cron-day		cron-day-of-month[] optional	The day(s) of the month when the job should be run.
job-schedule-cron-day-of-week		cron-day-of-week[] optional	The day(s) in the week when the job should be run.
job-schedule-cron-hour		cron-hour[] optional	The hour(s) of the day when the job should be run.
job-schedule-cron-minute		cron-minute[] optional	The minute(s) of each hour when the job should be run.

job-schedule-cron-month		cron-month[] optional	The month(s) when the job should be run.
job-schedule-name		string	The name of the job schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-get

[top]

Get a single job schedule entry.

Input Name	Range	Type	Description
desired-attributes		job-schedule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Output Name	Range	Type	Description
attributes		job-schedule-info	The attributes of the job-schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-schedule-get-iter

[top]

Get multiple job schedule entries.

Input Name	Range	Type	Description
desired-attributes		job-schedule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-**	integer	The maximum number of records to return in this call. Default: 20

	1]	optional	
query		job-schedule-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule object. All job-schedule objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-schedule-info[] optional	The list of attributes of job-schedule objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-schedule objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-schedule-interval-create

[top]

Create a new interval job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-interval-days	**[0..2^32-1]**	integer optional	The number of days between jobs.
job-schedule-interval-hours	**[0..2^32-1]**	integer optional	The number of hours between jobs.
job-schedule-interval-minutes	**[0..2^32-1]**	integer optional	The number of minutes between jobs.
job-schedule-interval-seconds	**[0..2^32-1]**	integer optional	The number of seconds between jobs.
job-schedule-name		string	The name of the job schedule.
return-record		boolean optional	If set to true, returns the job-schedule-interval on successful creation. Default: false

Output Name	Range	Type	Description
result		job-schedule-interval-info optional	The job-schedule-interval created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-interval-destroy

[top]

Delete a single interval job schedule entry. The entry must not be in use.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Errno	Description
E_SCHEDULE_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-interval-destroy-iter

[top]

Delete multiple interval job schedule entries. The entries must not be in use.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job-schedule-interval objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous job-schedule-interval fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous matching job-schedule-interval fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of job-schedule-interval objects to delete in this call. Default: 100
query		job-schedule-interval-info	If deleting a specific job-schedule-interval, this input element must specify all keys. If deleting multiple job-schedule-interval objects based on query, this input element must specify a query.

return-failure-list		boolean optional	If set to true, the API will return the list of job-schedule-interval objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-interval objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job-schedule-interval objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-interval objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-schedule-interval-destroy-iter-info[] optional	Information about job-schedule-interval objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job-schedule-interval objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of job-schedule-interval objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job-schedule-interval objects that matched the query and were successfully deleted.
success-list		job-schedule-interval-destroy-iter-info[] optional	The job-schedule-interval objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

job-schedule-interval-get

[top]

Get a single interval job schedule entry.

Input Name	Range	Type	Description
desired-attributes		job-schedule-interval-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Output Name	Range	Type	Description
attributes		job-schedule-interval-info	The attributes of the job-schedule-interval.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-schedule-interval-get-iter

[top]

Get multiple interval job schedule entries.

Input Name	Range	Type	Description
desired-attributes		job-schedule-interval-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 100
query		job-schedule-interval-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-interval object. All job-schedule-interval objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-schedule-interval-info[] optional	The list of attributes of job-schedule-interval objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-schedule-interval objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-schedule-interval-modify

[top]

Modify an existing interval job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-interval-days	**[0..2^32-1]**	integer optional	The number of days between jobs.
job-schedule-interval-hours	**[0..2^32-1]**	integer optional	The number of hours between jobs.
job-schedule-interval-minutes	**[0..2^32-1]**	integer optional	The number of minutes between jobs.
job-schedule-interval-seconds	**[0..2^32-1]**	integer optional	The number of seconds between jobs.
job-schedule-name		string	The name of the job schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-soft-pause

[top]

Soft pause a job. Indicates to the job that a soft pause has been initiated. It is up to the job to do what it needs to do for a soft pause. As a result of this command the job may request to be moved into the runnnable queue to perform further processing of the soft pause.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-soft-pause-iter

[top]

Soft pause a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-soft-pause-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job objects that matched the query and were successfully processed.
success-list		job-soft-pause-iter-info[] optional	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-stop

[top]

Stop a job. A job must be of a type that has job-type-is-quittable set to true before it may be stopped. job-stop attempts to stop a job that's currently running. If the job allows itself to stop it completes its current run. If the job has a recurring schedule it will transition to the Queued state; otherwise it will transition into either the Success or Failure state.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-stop-iter

[top]

Stop a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-stop-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job objects that matched the query and were successfully processed.

success-list		job-stop-iter-info[] optional	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **job-history-info**

[top]

Job history log event When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-completion		string optional	Human-readable job completion message. Attributes: non-creatable, non-modifiable
job-description		string optional	Job description. Attributes: non-creatable, non-modifiable
job-end-time	**[0..2^31-1]**	integer optional	When the job last completed. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
job-event-time	**[0..2^31-1]**	integer optional	The time when this event was logged. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
job-event-type		job-event-type optional	The type of this history event. Attributes: non-creatable, non-modifiable Possible values: • "idle" - The job has become idle, • "running" - The job has started running, • "succeeded" - The job has completed successfully, • "failed" - The job has completed with a failure, • "paused" - The job has been paused, • "stopped" - The job has been stopped, • "deleted" - The job has been deleted, • "error" - Job Manager experienced an error while processing the job
job-id	**[0..2^64-1]**	integer optional	The identifier associated with this job by the Job Manager. This identifier is unique within a cluster. The 'job-history-get-iter' API can return multiple records for a given job identifier because it logs the state transitions that the job has been through. Records in the 'job-history-get-iter' API are returned in reverse chronological order. Attributes: non-creatable, non-modifiable
job-	**[0..2^64-**	integer	The error code, if any, that the Job Manager associated with this

manager-error-code	**1]**	optional	event. If set, 'job-error-text' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable
job-manager-error-text		string optional	The human-readable text for the error code, if any, that the Job Manager associated with this event. Attributes: non-creatable, non-modifiable
job-name		string optional	Name of the job. Attributes: non-creatable, non-modifiable
job-node		node-name optional	The name of the node where the job ran, or the node that changed the job's state. Attributes: key, non-creatable, non-modifiable
job-progress		string optional	Human-readable job progress message. Attributes: non-creatable, non-modifiable
job-start-time	**[0..2^31-1]**	integer optional	When the job last started. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
job-status-code	**[0..2^64-1]**	integer optional	Status code. Value other than 0 indicates an error in the job execution, in which case 'job-completion' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable
job-username		string optional	The name of the user that created the job. Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	Job's universally unique identifier (UUID). Attributes: non-creatable, non-modifiable
job-vserver		job-history-vserver-name optional	Vserver from which the job was created. Attributes: key, non-creatable, non-modifiable
log-id	**[0..2^64-1]**	integer optional	The internal identifier of this job history event. Attributes: key, non-creatable, non-modifiable

Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-restarted		boolean optional	Restarted? Attributes: non-creatable, non-modifiable
job-category		string optional	Job Category Attributes: non-creatable, non-modifiable
job-completion		string optional	Completion String Attributes: non-creatable, non-modifiable
job-description		string optional	Description Attributes: non-creatable, non-modifiable
job-dropdead-time	**[0..2^31-1]**	integer optional	Drop-dead Time Attributes: non-creatable, non-modifiable

job-end-time	**[0..2^31-1]**	integer optional	End Time Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Job ID Attributes: key, non-creatable, non-modifiable
job-name		string optional	Name Attributes: non-creatable, non-modifiable
job-node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
job-priority		job-priority optional	Priority Attributes: non-creatable, non-modifiable Possible values: • "low" , • "medium" , • "high" , • "exclusive"
job-progress		string optional	Execution Progress Attributes: non-creatable, non-modifiable
job-queue-time	**[0..2^31-1]**	integer optional	Queue Time Attributes: non-creatable, non-modifiable
job-schedule		string optional	Schedule Attributes: non-creatable, non-modifiable
job-start-time	**[0..2^31-1]**	integer optional	Start Time Attributes: non-creatable, non-modifiable
job-state		job-state optional	State Attributes: non-creatable, non-modifiable Possible values: • "initial" - Initializing, • "queued" - Queued, • "running" - Running, • "waiting" - Waiting For Another Job, • "pausing" - Entering Paused State, • "paused" - Paused, • "quitting" - Entering Quit State, • "success" - Succeeded, • "failure" - Failed, • "reschedule" - Forcing Reschedule, • "error" - Internal Error, • "quit" - Quit, • "dead" - Died, • "unknown" - Unknown, • "restart" - Forcing Restart, • "dormant" - Waiting For External Event
job-status-code	**[0..2^64-1]**	integer optional	Status Code Attributes: non-creatable, non-modifiable
job-type		string optional	Job Type Attributes: non-creatable, non-modifiable
job-username		string optional	User Name Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	UUID Attributes: non-creatable, non-modifiable
job-vserver		vserver-name optional	Owning Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **job-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **job-private-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-private-resume-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-private-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.

error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-private-stop-iter-info** [top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-queue-config-info** [top]

Contains configuration detail information about the job queue. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-queue-config-jobs-per-type-threshold	**[0..100]**	integer optional	Threshold for accepted jobs per type. Attributes: non-creatable, modifiable
job-queue-config-queue-size-limit	**[0..2^32-1]**	integer optional	Job queue size limit. Attributes: non-creatable, modifiable
job-queue-config-warning-threshold	**[0..100]**	integer optional	Warning threshold for total number of jobs. Attributes: non-creatable, modifiable

Element definition: **job-resume-iter-info** [top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
		string	

error-message		optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **job-schedule-cron-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-cron object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-schedule-cron-key		job-schedule-cron-info	The keys for the job-schedule-cron object to which the deletion applies.

Element definition: **job-schedule-cron-info**

[top]

Contains detail information about cron job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable
job-schedule-cron-day		cron-day-of-month[] optional	The day(s) of the month when the job should be run. Attributes: optional-for-create, modifiable
job-schedule-cron-day-of-week		cron-day-of-week[] optional	The day(s) in the week when the job should be run. Attributes: optional-for-create, modifiable
job-schedule-cron-hour		cron-hour[] optional	The hour(s) of the day when the job should be run. Attributes: optional-for-create, modifiable
job-schedule-cron-minute		cron-minute[] optional	The minute(s) of each hour when the job should be run. Attributes: required-for-create, modifiable
job-schedule-		cron-month[]	The month(s) when the job should be run. Attributes: optional-for-create, modifiable

cron-month		optional	
job-schedule-description		string optional	The description of the job schedule. Attributes: non-creatable, non-modifiable
job-schedule-name		string optional	The name of the job schedule. Attributes: key, required-for-create, non-modifiable

Element definition: **job-schedule-info**

[top]

Contains overview information about a single job schedule. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable
job-schedule-description		string optional	The description of the job schedule. Attributes: non-creatable, non-modifiable
job-schedule-name		string optional	The name of the job schedule. Attributes: key, required-for-create, non-modifiable
job-schedule-type		schedule-type optional	The type of job schedule. Attributes: non-creatable, non-modifiable Possible values: • "cron" , • "interval" , • "builtin" , • "unknown"

Element definition: **job-schedule-interval-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-interval object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

job-schedule-interval-key		job-schedule-interval-info	The keys for the job-schedule-interval object to which the deletion applies.

Element definition: **job-schedule-interval-info**

[top]

Contains detail information about interval job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable
job-schedule-description		string optional	The description of the job schedule. Attributes: non-creatable, non-modifiable
job-schedule-interval-days	**[0..2^32-1]**	integer optional	The number of days between jobs. Attributes: optional-for-create, modifiable
job-schedule-interval-hours	**[0..2^32-1]**	integer optional	The number of hours between jobs. Attributes: optional-for-create, modifiable
job-schedule-interval-minutes	**[0..2^32-1]**	integer optional	The number of minutes between jobs. Attributes: optional-for-create, modifiable
job-schedule-interval-seconds	**[0..2^32-1]**	integer optional	The number of seconds between jobs. Attributes: optional-for-create, modifiable
job-schedule-name		string optional	The name of the job schedule. Attributes: key, required-for-create, non-modifiable

Element definition: **job-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.

error-message		string optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **job-stop-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **cron-day-of-month**

[top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour**

[top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **job-event-type**

[top]

Jobs will trigger history events at certain stages of their life cycle. These events are of the types described herein. Possible values:

- "idle" - The job has become idle,
- "running" - The job has started running,
- "succeeded" - The job has completed successfully,
- "failed" - The job has completed with a failure,
- "paused" - The job has been paused,
- "stopped" - The job has been stopped,
- "deleted" - The job has been deleted,
- "error" - Job Manager experienced an error while processing the job

[none]

Element definition: **job-history-vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-restarted		boolean optional	Restarted? Attributes: non-creatable, non-modifiable
job-category		string optional	Job Category Attributes: non-creatable, non-modifiable
job-completion		string optional	Completion String Attributes: non-creatable, non-modifiable
job-description		string optional	Description Attributes: non-creatable, non-modifiable
job-dropdead-time	**[0..2^31-1]**	integer optional	Drop-dead Time Attributes: non-creatable, non-modifiable
job-end-time	**[0..2^31-1]**	integer optional	End Time Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Job ID Attributes: key, non-creatable, non-modifiable
job-name		string optional	Name Attributes: non-creatable, non-modifiable
job-node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
job-priority		job-priority optional	Priority Attributes: non-creatable, non-modifiable Possible values: • "low" , • "medium" , • "high" , • "exclusive"
job-progress		string optional	Execution Progress Attributes: non-creatable, non-modifiable
job-queue-time	**[0..2^31-1]**	integer optional	Queue Time Attributes: non-creatable, non-modifiable
job-schedule		string optional	Schedule Attributes: non-creatable, non-modifiable
job-start-time	**[0..2^31-1]**	integer optional	Start Time Attributes: non-creatable, non-modifiable
			State Attributes: non-creatable, non-modifiable Possible values:

job-state		job-state optional	• "initial" - Initializing, • "queued" - Queued, • "running" - Running, • "waiting" - Waiting For Another Job, • "pausing" - Entering Paused State, • "paused" - Paused, • "quitting" - Entering Quit State, • "success" - Succeeded, • "failure" - Failed, • "reschedule" - Forcing Reschedule, • "error" - Internal Error, • "quit" - Quit, • "dead" - Died, • "unknown" - Unknown, • "restart" - Forcing Restart, • "dormant" - Waiting For External Event
job-status-code	**[0..2^64-1]**	integer optional	Status Code Attributes: non-creatable, non-modifiable
job-type		string optional	Job Type Attributes: non-creatable, non-modifiable
job-username		string optional	User Name Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	UUID Attributes: non-creatable, non-modifiable
job-vserver		vserver-name optional	Owning Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **job-priority**

[top]

Execution priority of a job. There are thread pools for each priority level. Higher priority jobs may run in the pools of lower priorities. So High-priority jobs may run in the High, Medium or Low thread pools, Medium-priority jobs may run in the Medium or Low thread pools and Low-priority jobs may only run in the Low thread pool. The exception to this is Exclusive jobs: Exclusive-priority jobs will only run in the Exclusive thread pool and only Exclusive-priority jobs will be run in the Exclusive thread pool. Possible values:

- "low" ,
- "medium" ,
- "high" ,
- "exclusive"

[none]

Element definition: **job-state**

[top]

Jobs execute as self-contained state machines. They follow a series of careful steps from creation to destruction. These steps are dictated by the states that they find themselves in as well as the allowable list of states they may transition into. The state can be an indicator of whether a job is executing and if not, why that is the case. Possible values:

- "initial" - Initializing,
- "queued" - Queued,
- "running" - Running,
- "waiting" - Waiting For Another Job,
- "pausing" - Entering Paused State,
- "paused" - Paused,
- "quitting" - Entering Quit State,
- "success" - Succeeded,
- "failure" - Failed,
- "reschedule" - Forcing Reschedule,
- "error" - Internal Error,
- "quit" - Quit,
- "dead" - Died,
- "unknown" - Unknown,
- "restart" - Forcing Restart,
- "dormant" - Waiting For External Event

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **schedule-type**

[top]

Jobs may be scheduled according to one of three major styles: 'cron' is for jobs that should be run at a specific time or well-defined calendar date; 'interval' is for jobs that should be run on a regular period; 'builtin' is for jobs that should be run according to internal rules. Of these 'cron' and 'interval' may be customized. Possible values:

- "cron" ,
- "interval" ,
- "builtin" ,
- "unknown"

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **kerberos**

kerberos-config-get
kerberos-config-get-iter
kerberos-config-modify
kerberos-realm-create
kerberos-realm-delete
kerberos-realm-get-iter
kerberos-realm-modify

This set of ZAPIs allows Kerberos realm configuration and management.

kerberos-config-get

[top]

Get Kerberos configuration information for a LIF.

Input Name	Range	Type	Description
desired-attributes		kerberos-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface-name		string	Logical interface.

Output Name	Range	Type	Description
attributes		kerberos-config-info	The attributes of the kerberos-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

kerberos-config-get-iter

[top]

Get Kerberos configuration information for a group of LIFs.

Input Name	Range	Type	Description
desired-attributes		kerberos-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 50
query		kerberos-config-	A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-config

		info optional	object. All kerberos-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		kerberos-config-info[] optional	The list of attributes of kerberos-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more kerberos-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

kerberos-config-modify

[top]

Modify Kerberos configuration information for a LIF

Input Name	Range	Type	Description
admin-password		string optional	Administrator password.
admin-user-name		string optional	Administrator username.
force		boolean optional	Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually.
interface-name		string	Logical interface.
is-kerberos-enabled		boolean optional	If 'true', then kerberos security is enabled.
keytab-uri		string optional	Keytab to load the uri from.
machine-account		string optional	Machine Account Name.
organizational-unit		string optional	Organizational Unit.
service-principal-name		string optional	Kerberos service principal name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_CANT_SHARE_AD_KERBEROS_ACCOUNT	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

kerberos-realm-create

[top]

Create a new Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

Input Name	Range	Type	Description
ad-server-ip		ip-address optional	IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'.
ad-server-name		string optional	Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'
admin-server-ip		ip-address optional	IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'.
admin-server-port		integer optional	The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749.
clock-skew		integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes.
comment		string optional	Comment
config-name		string optional	Kerberos configuration name.
kdc-ip		ip-address	IP address of the Key Distribution Centre (KDC) server for this Kerberos realm.
kdc-port		integer optional	TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88.
kdc-vendor		kdc-vendor	The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'.
password-server-ip		ip-address optional	IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used.
password-server-port		integer optional	The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464.
realm		string	Kerberos realm name.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

kerberos-realm-delete

[top]

Delete the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

Input Name	Range	Type	Description
config-name		string optional	Kerberos configuration name.
realm		string optional	Kerberos realm name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

kerberos-realm-get-iter

[top]

Retrieve the list of Kerberos realm configurations.

Input Name	Range	Type	Description
desired-attributes		kerberos-realm optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		kerberos-realm optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-realm object. All kerberos-realm objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		kerberos-realm[] optional	The list of attributes of kerberos-realm objects.
next-tag		string optional	Tag for the next call. Not present when there are no more kerberos-realm objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

kerberos-realm-modify

[top]

Modify the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

Input Name	Range	Type	Description
ad-server-ip		ip-address optional	IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'.
ad-server-name		string optional	Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'
admin-server-ip		ip-address optional	IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'.
admin-server-port		integer optional	The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749.
clock-skew		integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes.
comment		string optional	Comment
config-name		string optional	Kerberos configuration name.
kdc-ip		ip-address optional	IP address of the Key Distribution Centre (KDC) server for this Kerberos realm.
kdc-port		integer optional	TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88.
kdc-vendor		kdc-vendor optional	The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'.
password-server-ip		ip-address optional	IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used.
password-server-port		integer optional	The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464.
realm		string optional	Kerberos realm name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

Element definition: **kerberos-config-info**

[top]

Kerberos configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-password		string optional	Administrator password for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable
admin-user-name		string optional	Administrator username for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable
force		boolean optional	Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually. Attributes: non-creatable, modifiable
interface-name		string optional	Logical interface. Attributes: key, non-creatable, non-modifiable

ip-address		string optional	Logical interface IP address. Attributes: non-creatable, non-modifiable
is-kerberos-enabled		boolean optional	This is a required input. If 'true', Kerberos security is enabled by creating an account in the Key Distribution Center using the Service Principal Name. If another logical interface uses the same Service Principal Name, the account is shared. If 'false', Kerberos security is disabled and the associated account is deleted when it is not used by any logical interface. Attributes: non-creatable, modifiable
keytab-uri		string optional	Load Keytab from URI. This field should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable
machine-account		string optional	Machine Account Name. Attributes: non-creatable, modifiable
organizational-unit		string optional	Organization Unit. This option is available for a Microsoft AD KDC only. Attributes: non-creatable, modifiable
permitted-enc-types		string[] optional	Permitted encryption types in the Vserver. Attributes: non-creatable, non-modifiable
service-principal-name		string optional	Kerberos service principal name. This is a required input for enabling Kerberos. This input should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable
vserver		string optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **kerberos-realm**

[top]

Kerberos realm configuration specifies the locations of Key Distribution Center (KDC) servers and administration daemons for the Kerberos realms of interest. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ad-server-ip		ip-address optional	IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable
ad-server-name		string optional	Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' Attributes: optional-for-create, modifiable
admin-server-ip		ip-address optional	IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable
admin-server-	**[1..65535]**	integer	The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this

port		optional	parmater is 749. Attributes: optional-for-create, modifiable
clock-skew	**[0..2^32-1]**	integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. Attributes: optional-for-create, modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
config-name		string optional	Kerberos configuration name. Attributes: key, non-creatable, non-modifiable
kdc-ip		ip-address optional	IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. Attributes: required-for-create, modifiable
kdc-port	**[1..65535]**	integer optional	TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. Attributes: optional-for-create, modifiable
kdc-vendor		kdc-vendor optional	The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. Attributes: required-for-create, modifiable Possible values: • "microsoft" , • "other"
password-server-ip		ip-address optional	IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. Attributes: optional-for-create, modifiable
password-server-port	**[1..65535]**	integer optional	The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. Attributes: optional-for-create, modifiable
permitted-enc-types		string[] optional	Permitted encryption types on the Vserver. Attributes: non-creatable, non-modifiable
realm		string optional	Kerberos realm name. Attributes: key, required-for-create, non-modifiable
vserver-name		vserver-name optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **ldap**

ldap-check-get-iter
ldap-client-create
ldap-client-delete
ldap-client-get-iter
ldap-client-modify
ldap-client-schema-copy
ldap-client-schema-delete
ldap-client-schema-get-iter
ldap-client-schema-modify
ldap-config-create
ldap-config-delete
ldap-config-get-iter
ldap-config-modify

This set of ZAPIs manages Lightweight Directory Access Protocol (LDAP) configuration.

ldap-check-get-iter

[top]

Display the status of an LDAP configuration

Input Name	Range	Type	Description
desired-attributes		ldap-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ldap-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-check object. All ldap-client-check objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-status[] optional	The list of attributes of ldap-client-check objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-client-check objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
E_LDAP_VSERVER_OPSTATE_STOPPED	
E_LDAP_CONFIG_DISABLED	
E_LDAP_VSERVER_CONFIG_INVALID	

ldap-client-create

[top]

Create a new Lightweight Directory Access Protocol (LDAP) client configuration for the cluster.

Input Name	Range	Type	Description
ad-domain		string optional	The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers.
base-dn		ldap-dn optional	Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree.
base-scope		ldap-search-scope optional	This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
bind-as-cifs-server		boolean optional	If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise.
bind-dn		ldap-dn optional	The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com
bind-password		string optional	The password to be used with the bind-dn.
group-dn		ldap-dn optional	The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn.
group-membership-filter		string optional	This indicates the custom filter to be used while looking up group membership from an LDAP server.
group-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing group lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates

is-netgroup-byhost-enabled		boolean optional	This indicates whether netgroup.byhost map should be queried for lookups.
ldap-client-config		string	The name of the LDAP client configuration.
ldap-servers		string[] optional	List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter.
ldaps-enabled		boolean optional	Indicates whether LDAPS is enabled or not.
min-bind-level		ldap-auth-method optional	The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values: • "anonymous" - Anonymous bind, • "simple" - Simple bind, • "sasl" - Simple Authentication and Security Layer (SASL) bind
netgroup-byhost-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn.
netgroup-byhost-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
netgroup-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn.
netgroup-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
obs-password		hex-string optional	Encrypted Password
preferred-ad-servers		ip-address[] optional	Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers
query-timeout	**[0..10]**	integer optional	Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds.
referral-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver.
restrict-		boolean	This indicates whether to restrict server discovery to site scope.

discovery-to-site		optional	The option is NOT applicable for configurations using ldap-servers parameter.
return-record		boolean optional	If set to true, returns the ldap-client on successful creation. Default: false
schema		string	LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API.
servers		ip-address[] optional	(DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers.
session-security		ldap-security optional	This indicates the level of security for LDAP communications. By default this option is none. Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
tcp-port	**[1..65535]**	integer optional	The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389.
try-channel-binding		boolean optional	This indicates whether channel binding will be tried in case of TLS/LDAPS.
use-start-tls		boolean optional	This indicates if start_tls will be used over LDAP connections.
user-dn		ldap-dn optional	The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn.
user-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing user lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates

Output Name	Range	Type	Description
result		ldap-client optional	The ldap-client created (keys or the entire object if requested)

Errno	Description
EDUPLICATEENTRY	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

ldap-client-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) client configuration from the cluster.

Input Name	Range	Type	Description
ldap-client-config		string	The name of the LDAP client configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-client-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client configurations for the cluster.

Input Name	Range	Type	Description
desired-attributes		ldap-client optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ldap-client optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client object. All ldap-client objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-client[] optional	The list of attributes of ldap-client objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-client objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

ldap-client-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) client configuration.

Input Name	Range	Type	Description
ad-domain		string optional	The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers.
base-dn		ldap-dn optional	Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree.
			This indicates the scope for LDAP search. If omitted, this

base-scope		ldap-search-scope optional	parameter defaults to 'subtree'. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
bind-as-cifs-server		boolean optional	If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise.
bind-dn		ldap-dn optional	The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com
bind-password		string optional	The password to be used with the bind-dn.
group-dn		ldap-dn optional	The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn.
group-membership-filter		string optional	This indicates the custom filter to be used while looking up group membership from an LDAP server.
group-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing group lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
is-netgroup-byhost-enabled		boolean optional	This indicates whether netgroup.byhost map should be queried for lookups.
ldap-client-config		string	The name of the LDAP client configuration.
ldap-servers		string[] optional	List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter.
ldaps-enabled		boolean optional	Indicates whether LDAPS is enabled or not.
min-bind-level		ldap-auth-method optional	The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values: • "anonymous" - Anonymous bind, • "simple" - Simple bind, • "sasl" - Simple Authentication and Security Layer (SASL) bind
netgroup-byhost-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the

			base-dn.
netgroup-byhost-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
netgroup-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn.
netgroup-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
obs-password		hex-string optional	Encrypted Password
preferred-ad-servers		ip-address[] optional	Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers
query-timeout	**[0..10]**	integer optional	Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds.
referral-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver.
restrict-discovery-to-site		boolean optional	This indicates whether to restrict server discovery to site scope. The option is NOT applicable for configurations using ldap-servers parameter.
schema		string optional	LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API.
servers		ip-address[] optional	(DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers.
session-security		ldap-security optional	This indicates the level of security for LDAP communications. By default this option is none. Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped.
tcp-port	**[1..65535]**	integer optional	The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389.
try-channel-binding		boolean optional	This indicates whether channel binding will be tried in case of TLS/LDAPS.
use-start-tls		boolean optional	This indicates if start_tls will be used over LDAP connections.

user-dn		ldap-dn optional	The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn.
user-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing user lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

ldap-client-schema-copy

[top]

Copy an existing LDAP schema. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, this API can be used to create an editable copy of an existing read-only schema. After copying the schema, the copy can be modified using the ldap-client-schema-modify API.

Input Name	Range	Type	Description
new-schema-name		string	New Schema Template Name
schema		string	A name for the schema.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-client-schema-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) schema configuration. Only the schemas that are defined using the ldap-client-schema-copy API can be deleted using this API.

Input Name	Range	Type	Description
schema		string	A name for the schema.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-client-schema-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client schema configurations that are defined for the cluster.

Input Name	Range	Type	Description
desired-attributes		ldap-client-schema optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ldap-client-schema optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-schema object. All ldap-client-schema objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-client-schema[] optional	The list of attributes of ldap-client-schema objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-client-schema objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ldap-client-schema-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) schema configuration. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, the ldap-client-schema-copy API can be used to create a editable copy of an existing read-only schema. After copying the schema, the copy can be modified using this API to support the target schema.

Input Name	Range	Type	Description
cn-group-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups.
cn-netgroup-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups.
comment		string optional	A comment that can be associated with the schema.
enable-rfc2307bis		boolean optional	This indicates if the RFC 2307bis is enabled for client schema.
gecos-attribute		string optional	Name that represents the RFC 2307 gecos attribute.
gid-number-attribute		string optional	Name that represents the RFC 2307 gidNumber attribute.

group-of-unique-names-object-class		string optional	Name that represents the RFC 2307bis groupOfUniqueNames object class.
home-directory-attribute		string optional	Name that represents the RFC 2307 homeDirectory attribute.
login-shell-attribute		string optional	Name that represents the RFC 2307 loginShell attribute.
member-nis-netgroup-attribute		string optional	Name that represents the RFC 2307 memberNisNetgroup attribute.
member-uid-attribute		string optional	Name that represents the RFC 2307 memberUid attribute.
nis-mapentry-attribute		string optional	Name that represents the RFC 2307 nisMapEntry Attribute.
nis-mapname-attribute		string optional	Name that represents the RFC 2307 nisMapName Attribute.
nis-netgroup-object-class		string optional	Name that represents the RFC 2307 nisNetgroup object class.
nis-netgroup-triple-attribute		string optional	Name that represents the RFC 2307 nisNetgroupTriple attribute.
nis-object-class		string optional	Name that represents the RFC 2307 nisObject Object Class.
posix-account-object-class		string optional	Name that represents the RFC 2307 posixAccount object class.
posix-group-object-class		string optional	Name that represents the RFC 2307 posixGroup object class.
schema		string	A name for the schema.
uid-attribute		string optional	Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid.
uid-number-attribute		string optional	Name that represents the RFC 2307 uidNumber attribute.
unique-member-attribute		string optional	Name that represents the RFC 2307bis uniqueMember attribute.
user-password-attribute		string optional	Name that represents the RFC 2256 userPassword attribute used by RFC 2307.
windows-account-attribute		string optional	Attribute name to be used to get the windows account information for a unix user account.
windows-to-unix-attribute		string optional	Attribute name to be used to get the unix account information for a windows user account.
windows-to-unix-no-domain-prefix		boolean optional	This indicates if the name for windows to unix name mapping should have no domain prefix.
windows-to-unix-object-class		string optional	Name that represents the windowsToUnix object class.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-config-create

[top]

Create a new association between a Lightweight Directory Access Protocol (LDAP) client configuration and a Vserver. A Vserver can have only one client configuration associated with it.

Input Name	Range	Type	Description
client-config		string	The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster.
client-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver.
return-record		boolean optional	If set to true, returns the ldap-config on successful creation. Default: false
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped.

Output Name	Range	Type	Description
result		ldap-config optional	The ldap-config created (keys or the entire object if requested)

Errno	Description
EDUPLICATEENTRY	
E_LDAP_VSERVER_CONFIG_INVALID	
E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

ldap-config-delete

[top]

Delete a Vserver's association with a Lightweight Directory Access Protocol (LDAP) configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

ldap-config-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) configurations in the cluster.

Input Name	Range	Type	Description
desired-attributes		ldap-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
			A query that specifies which objects to return. A query could be

query		ldap-config optional	specified on any number of attributes in the ldap-config object. All ldap-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-config[] optional	The list of attributes of ldap-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ldap-config-modify

[top]

Modify the Lightweight Directory Access Protocol (LDAP) configuration for a Vserver.

Input Name	Range	Type	Description
client-config		string optional	The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster.
client-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver.
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped.

Errno	Description
E_LDAP_VSERVER_CONFIG_INVALID	
E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

Element definition: **ldap-client**

[top]

LDAP Client Information. Each entry specifies an LDAP client configuration that can be associated with a Vserver using the ldap-config-create API. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ad-domain		string optional	The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable
base-dn		ldap-dn optional	Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. Attributes: optional-for-create, modifiable
base-scope		ldap-search-scope optional	This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
bind-as-cifs-server		boolean optional	If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to

			'false' otherwise. Attributes: optional-for-create, modifiable
bind-dn		ldap-dn optional	The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com Attributes: optional-for-create, modifiable
bind-password		string optional	The password to be used with the bind-dn. Attributes: optional-for-create, modifiable
group-dn		ldap-dn optional	The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. Attributes: optional-for-create, modifiable
group-membership-filter		string optional	This indicates the custom filter to be used while looking up group membership from an LDAP server. Attributes: optional-for-create, modifiable
group-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing group lookups. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
is-netgroup-byhost-enabled		boolean optional	This indicates whether netgroup.byhost map should be queried for lookups. Attributes: optional-for-create, modifiable
is-owner		boolean optional	This indicates if the vserver owns the client configuration. Attributes: non-creatable, non-modifiable
ldap-client-config		string optional	The name of the LDAP client configuration. Attributes: key, required-for-create, non-modifiable
ldap-servers		string[] optional	List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. Attributes: optional-for-create, modifiable
ldaps-enabled		boolean optional	Indicates whether LDAPS is enabled or not. Attributes: optional-for-create, modifiable
min-bind-level		ldap-auth-method optional	The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Attributes: optional-for-create, modifiable Possible values: • "anonymous" - Anonymous bind, • "simple" - Simple bind, • "sasl" - Simple Authentication and Security Layer (SASL) bind
netgroup-byhost-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. Attributes: optional-for-create, modifiable
			This indicates the scope for LDAP search when doing netgroup byhost lookups. Attributes: optional-for-create, modifiable Possible values:

netgroup-byhost-scope		ldap-search-scope optional	• "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
netgroup-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. Attributes: optional-for-create, modifiable
netgroup-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup lookups. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
obs-password		hex-string optional	Encrypted Password Attributes: optional-for-create, modifiable
preferred-ad-servers		ip-address[] optional	Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers Attributes: optional-for-create, modifiable
query-timeout	**[0..10]**	integer optional	Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. Attributes: optional-for-create, modifiable
referral-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. Attributes: optional-for-create, modifiable
restrict-discovery-to-site		boolean optional	This indicates whether to restrict server discovery to site scope. The option is NOT applicable for configurations using ldap-servers parameter. Attributes: optional-for-create, modifiable
schema		string optional	LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. Attributes: required-for-create, modifiable
servers		ip-address[] optional	(DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable
session-security		ldap-security optional	This indicates the level of security for LDAP communications. By default this option is none. Attributes: optional-for-create, modifiable Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: non-creatable, modifiable
tcp-port	**[1..65535]**	integer optional	The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. Attributes: optional-for-create, modifiable

try-channel-binding		boolean optional	This indicates whether channel binding will be tried in case of TLS/LDAPS. Attributes: optional-for-create, modifiable
use-start-tls		boolean optional	This indicates if start_tls will be used over LDAP connections. Attributes: optional-for-create, modifiable
user-dn		ldap-dn optional	The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. Attributes: optional-for-create, modifiable
user-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing user lookups. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
vserver		vserver-name-data-admin optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **ldap-client-schema**

[top]

An LDAP Client Schema Definition. A schema definition is a way of defining what attribute names are to be used in LDAP queries to get information that the storage system needs for its operation. This will depend on the schema that the LDAP server supports. For example, to query for user account information, the LDAP query should ask for the 'posixAccount' class if the LDAP server is compatible with RFC-2307 and it should ask for 'User' class if the LDAP server is an Active Directory LDAP Server. The default LDAP configuration has two schemas defined namely 'RFC-2307' and 'AD-SFU'. The 'RFC-2307' schema is the default schema that should be used to query servers that support RFC-2307. The 'AD-SFU' schema is the default schema that should be used to query Active Directory LDAP servers. These schemas are read-only and cannot be modified. The default schemas will work with most common LDAP configurations. If it is required to support other schema configurations, 820 :existing schemas can be copied using the 'ldap-client-schema-copy' API and modified using the 'ldap-client-schema-modify' API to work for the new configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cn-group-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups. Attributes: optional-for-create, modifiable
cn-netgroup-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups. Attributes: optional-for-create, modifiable

comment		string optional	A comment that can be associated with the schema. Attributes: optional-for-create, modifiable
enable-rfc2307bis		boolean optional	This indicates if the RFC 2307bis is enabled for client schema. Attributes: optional-for-create, modifiable
gecos-attribute		string optional	Name that represents the RFC 2307 gecos attribute. Attributes: optional-for-create, modifiable
gid-number-attribute		string optional	Name that represents the RFC 2307 gidNumber attribute. Attributes: optional-for-create, modifiable
group-of-unique-names-object-class		string optional	Name that represents the RFC 2307bis groupOfUniqueNames object class. Attributes: optional-for-create, modifiable
home-directory-attribute		string optional	Name that represents the RFC 2307 homeDirectory attribute. Attributes: optional-for-create, modifiable
is-owner		boolean optional	This indicates if the vserver owns the client schema. Attributes: non-creatable, non-modifiable
login-shell-attribute		string optional	Name that represents the RFC 2307 loginShell attribute. Attributes: optional-for-create, modifiable
member-nis-netgroup-attribute		string optional	Name that represents the RFC 2307 memberNisNetgroup attribute. Attributes: optional-for-create, modifiable
member-uid-attribute		string optional	Name that represents the RFC 2307 memberUid attribute. Attributes: optional-for-create, modifiable
nis-mapentry-attribute		string optional	Name that represents the RFC 2307 nisMapEntry Attribute. Attributes: optional-for-create, modifiable
nis-mapname-attribute		string optional	Name that represents the RFC 2307 nisMapName Attribute. Attributes: optional-for-create, modifiable
nis-netgroup-object-class		string optional	Name that represents the RFC 2307 nisNetgroup object class. Attributes: optional-for-create, modifiable
nis-netgroup-triple-attribute		string optional	Name that represents the RFC 2307 nisNetgroupTriple attribute. Attributes: optional-for-create, modifiable
nis-object-class		string optional	Name that represents the RFC 2307 nisObject Object Class. Attributes: optional-for-create, modifiable
posix-account-object-class		string optional	Name that represents the RFC 2307 posixAccount object class. Attributes: optional-for-create, modifiable
posix-group-object-class		string optional	Name that represents the RFC 2307 posixGroup object class. Attributes: optional-for-create, modifiable
schema		string optional	A name for the schema. Attributes: key, required-for-create, non-modifiable
uid-attribute		string optional	Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid. Attributes: optional-for-create, modifiable
uid-number-attribute		string optional	Name that represents the RFC 2307 uidNumber attribute. Attributes: optional-for-create, modifiable
unique-member-attribute		string optional	Name that represents the RFC 2307bis uniqueMember attribute. Attributes: optional-for-create, modifiable
user-password-attribute		string optional	Name that represents the RFC 2256 userPassword attribute used by RFC 2307. Attributes: optional-for-create, modifiable
vserver		vserver-name-data-admin optional	Vserver Attributes: key, non-creatable, non-modifiable
windows-account-attribute		string optional	Attribute name to be used to get the windows account information for a unix user account. Attributes: optional-for-create, modifiable
windows-to-		string	Attribute name to be used to get the unix account information

unix-attribute		optional	for a windows user account. Attributes: optional-for-create, modifiable
windows-to-unix-no-domain-prefix		boolean optional	This indicates if the name for windows to unix name mapping should have no domain prefix. Attributes: optional-for-create, modifiable
windows-to-unix-object-class		string optional	Name that represents the windowsToUnix object class. Attributes: optional-for-create, modifiable

Element definition: **ldap-config**

[top]

Lightweight Directory Access Protocol (LDAP) configuration. Specifies the LDAP client configuration that is associated with this Vserver and whether the configuration is enabled. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-config		string optional	The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. Attributes: required-for-create, modifiable
client-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. Attributes: optional-for-create, modifiable
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: optional-for-create, modifiable
vserver		vserver-name-data-admin optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ldap-dn**

[top]

LDAP Distinguished Name

[none]

Element definition: **ldap-search-scope**

[top]

base|onelevel|subtree Possible values:

- "base" - Searches only the base directory entry,
- "onelevel" - Searches the immediate subordinates of the base directory entry,
- "subtree" - Searches the base directory entry and all its subordinates

[none]

Element definition: **ldap-security**

[top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

Element definition: **ldap-status**

[top]

LDAP Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-config		string optional	Specifies the LDAP Client configuration for the Vserver Attributes: non-creatable, non-modifiable
ldap-dn-status-details		string[] optional	Specifies additional information about the status of a LDAP DN config. Attributes: non-creatable, non-modifiable
ldap-status		boolean optional	Specifies the status of a LDAP service. Attributes: non-creatable, non-modifiable
ldap-status-details		string optional	Specifies additional information about the status of a LDAP config. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the LDAP configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

APIs in Category: **license-v2**

license-v2-add
license-v2-apply
license-v2-capacity-create
license-v2-capacity-get-iter
license-v2-cleanup-list-info
license-v2-delete
license-v2-delete-expired
license-v2-delete-unused
license-v2-entitlement-risk-get-iter
license-v2-leases-update
license-v2-license-manager-config-get
license-v2-license-manager-config-modify
license-v2-license-manager-status-get-iter
license-v2-list-info
license-v2-status-get-iter
license-v2-status-list-info
license-v2-subscription-create
license-v2-subscription-get-iter
system-license-aggregate-get-iter

This set of zapis allows management of 7-Mode and Cluster-Mode licenses for Data ONTAP 8.2 and later. License keys are controller based which requires a separate license for each controller. A typical license key has a serial number embedded in it that restrict its use on a specific controller only (with the exception of Site and Demo keys). In a cluster, a single license with an associated serial number can allow a package to be used in the cluster, but to be fully entitled for a package, one must install a license for each controller. Site and Demo licenses are cluster wide and only require a single license for the entire cluster.

license-v2-add

[top]

Add license for a Data ONTAP service.

Input Name	Range	Type	Description
codes		license-code-v2[]	Data ONTAP Cluster-Mode service/feature. 24 or 48 uppercase alpha only characters.

Output Name	Range	Type	Description
license-v2-failure-list		license-v2-result[] optional	A list of failed license operations, one entry per license.
license-v2-success-list		license-v2-added[] optional	A list of successfully added licenses, one entry per license.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-apply

[top]

Add entitlements described in license content

Input Name	Range	Type	Description
content		string	Content of license specification

Errno	Description
EONTAPI_INVALID_LICENSE	
EONTAPI_INVALID_SIGNATURE	
EONTAPI_PLATFORM	
EONTAPI_ZERO_VALUE	
EONTAPI_TABLE_ERROR	

license-v2-capacity-create

[top]

Adds V2 capacity license.

Input Name	Range	Type	Description
license-input		string	Capacity license input.

Errno	Description
EONTAPI_INVALID_LICENSE	
EONTAPI_INVALID_CAPACITY	
EONTAPI_INVALID_SIGNATURE	
EONTAPI_PLATFORM	
EONTAPI_TABLE_ERROR	
EONTAPI_ZERO_CAPACITY	

license-v2-capacity-get-iter

[top]

Get V2 capacity license information. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

Input Name	Range	Type	Description
desired-attributes		license-v2-capacity-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

		optional	
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-capacity-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-capacity-info[] optional	The list of attributes of license objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-cleanup-list-info

[top]

Returns licenses that can be cleaned up. A license can be cleaned up if it's a demo license and its expiration time has passed (expired), or if it is a license for a controller that is no longer part of a cluster (unused). One can use the cleanup apis to remove these licenses together, or alternatively, they can use the standard license-remove api to remove them one at a time.

Output Name	Range	Type	Description
licenses		license-v2-cleanup[] optional	An array, one entry per each license.

Errno	Description
EINTERNALERROR	

license-v2-delete

[top]

Removes license for a Data ONTAP service.

Input Name	Range	Type	Description
			Package Possible values: • "base" - Cluster Base License. This value has been deprecated in

package		licensed-package	Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
serial-number		node-serial-number optional	Serial number of the node associated with the license. If this parameter is not provided, the default serial number used is the cluster serial number.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-delete-expired

[top]

Remove licenses that have expired in the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-delete-unused

[top]

Remove licenses that have no controller affiliation in the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-entitlement-risk-get-iter

[top]

Returns license entitlement risk for cluster mode packages.

Input Name	Range	Type	Description
desired-attributes		license-v2-entitlement-risk-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-entitlement-risk-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-entitlement-risk-info[] optional	The list of attributes of license objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-leases-update

[top]

Attempt to reconcile capacity leases

Input Name	Range	Type	Description
force		boolean optional	Force renewal of valid leases.
node		node-name optional	Node(s) to attempt renewal.

Output Name	Range	Type	Description
results		leases-update-results	Results of reconciliation attempt.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

license-v2-license-manager-config-get

[top]

Get license manager configuration

Input Name	Range	Type	Description
desired-attributes		lm-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		lm-config	The attributes of the lm_config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-license-manager-config-modify

[top]

Modify license manager configuration

Input Name	Range	Type	Description
host		string optional	License Manager Host

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-license-manager-status-get-iter

[top]

Check accessibility of license manager

Input Name	Range	Type	Description
desired-attributes		lm-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		lm-	A query that specifies which objects to return. A query could be

query		status optional	specified on any number of attributes in the lm_status object. All lm_status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lm-status[] optional	The list of attributes of lm_status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lm_status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-list-info

[top]

Returns infomation for DATA ONTAP licenses.

Output Name	Range	Type	Description
licenses		license-v2-info[]	An array, one entry per license.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

license-v2-status-get-iter

[top]

Get Data ONTAP licenses status information.

Input Name	Range	Type	Description
desired-attributes		license-v2-license-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-license-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the license-v2 object. All license-v2 objects matching this query up to 'max-records' will be

		optional	returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-license-info[] optional	The list of attributes of license-v2 objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license-v2 objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-status-list-info

[top]

Returns license status information for cluster mode packages. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

Output Name	Range	Type	Description
license-v2-status		license-v2-status-info[]	An array, one entry per each licensable service.

Errno	Description
EINTERNALERROR	

license-v2-subscription-create

[top]

Add V2 subscription license.

Input Name	Range	Type	Description
license-input		string	Subscription license input.

Errno	Description
EONTAPI_INVALID_LICENSE	
EONTAPI_INVALID_SIGNATURE	
EONTAPI_TABLE_ERROR	

license-v2-subscription-get-iter

[top]

Get V2 subscription license information.

Input Name	Range	Type	Description
desired-attributes		license-v2-subscription-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-subscription-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-subscription-info[] optional	The list of attributes of license objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-license-aggregate-get-iter

[top]

Get Data ONTAP aggregate license information.

Input Name	Range	Type	Description
desired-attributes		system-license-aggregate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-license-aggregate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-license-aggregate object. All system-license-aggregate objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-license-aggregate-info[] optional	The list of attributes of system-license-aggregate objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-license-aggregate objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **leases-update-results**

[top]

Lease Update Results When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failed-to-update	**[0..2^64-1]**	integer optional	Number of Leases Failed to Update Attributes: non-creatable, non-modifiable
up-to-date	**[0..2^64-1]**	integer optional	Number of Leases Up to Date Attributes: non-creatable, non-modifiable
updated	**[0..2^64-1]**	integer optional	Number of Leases Updated Attributes: non-creatable, non-modifiable

Element definition: **license-code-v2**

[top]

License Code V2

[none]

Element definition: **license-v2-added**

[top]

A license entry that was successfully added to the controller or the cluster.

Name	Range	Type	Description

customer-id		string optional	Customer Identification. This value is only present in site licenses. It is set to none for standard and demo licenses. Attributes: non-creatable, non-modifiable
expiration-time		datetime optional	License expiration time. This value is only present in demo licenses. It is set to zero for permanent licenses such as standard and site licenses. Attributes: non-creatable, non-modifiable
license-key		license-code-v2 optional	License Key. Attributes: non-creatable, non-modifiable
package		licensed-package optional	Package Name. Attributes: non-creatable, non-modifiable
package-description		string optional	Description of the package. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial Number. This value is only present in standard licenses. It is set to none for site and demo licenses. Attributes: non-creatable, non-modifiable
type		license-v2-type optional	License Type. Attributes: non-creatable, non-modifiable

Element definition: **license-v2-capacity-info**

[top]

Information about a capacity license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-capacity		integer optional	The node's current disk capacity. Attributes: non-creatable, non-modifiable
expiration-time		datetime optional	License expiration time. Attributes: non-creatable, non-modifiable
max-capacity		integer optional	Maximum licensed capacity. Absence of this element within a returned value implies that the maximum capacity is temporarily unlimited. Attributes: non-creatable, non-modifiable
owner		string optional	Node that owns the serial number. Attributes: non-creatable, non-modifiable
			Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License,

package		licensed-package optional	• "snapvault" - SnapVault License, • "snaplock" - SnapLock Compliance License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "snaplock_enterprise" - SnapLock Enterprise License, • "insight_balance" - OnCommand Balance, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
reported-state		reported-capacity-state optional	Current state of capacity license. Attributes: non-creatable, non-modifiable Possible values: • "evaluation" - evaluation license in effect, • "missing" - license has been purchased but not yet installed, • "installed" - valid purchased license in effect, • "warning" - purchased license in use, but attached capacity is approaching maximum entitled amount, • "enforcement" - attached capacity exceeds amount permitted by purchased license
serial-number		node-serial-number optional	Serial number of the node. Attributes: key, non-creatable, non-modifiable

Element definition: **license-v2-cleanup**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
owner		string optional	Name of the controller associated with the license. Attributes: non-creatable, non-modifiable
			Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License,

package		licensed-package optional	• "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
reason		string optional	The reason the license can be cleaned up. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial number of the controller or cluster. Attributes: key, non-creatable, non-modifiable

Element definition: **license-v2-entitlement-risk-info**

[top]

Information about entitlement risk for license packages. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	Corrective action text. Attributes: non-creatable, non-modifiable
action-code		license-entitlement-risk-action optional	Corrective action needed to reduce cluster license entitlement risk. Attributes: non-creatable, non-modifiable Possible values: • "acquire_license" - Acquire a node-locked license, • "verify_entitlement" - Verify all controllers are entitled, • "verify_system_health" - Verify system health, • "none" - None
node-license-usage		node-license-usage-info[] optional	Node-locked license information and usage status for each node.
			Name of the license package Attributes: key, non-creatable, non-modifiable Possible values:

package		licensed-package optional	• "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
risk		license-entitlement-risk optional	Entitlement risk for the license package. Attributes: non-creatable, non-modifiable Possible values: • "high" - Cluster license entitlement risk is high, • "medium" - Cluster license entitlement risk is medium, • "low" - Cluster license entitlement risk is low, • "unlicensed" - No node-locked license present and corresponding features are not in use, • "unknown" - License entitlement is unknown

Element definition: **license-v2-info**

[top]

Information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
customer-id		string optional	Customer Identification. This field is used to track site licenses issued to Enterprise Level Agreement customers. It will typical be set to "none" unless a unique customer id has been assigned. This value is reported in Auto Support, and can be used to correlate licensing information with backend business systems for tracking purposes. Attributes: non-creatable, non-modifiable
description		string optional	Description of the licensed package. Attributes: non-creatable, non-modifiable

expiration-time		datetime optional	License expiration time. Attributes: non-creatable, non-modifiable
legacy		boolean optional	Legacy License. A legacy license indicates that the license was previously installed prior to this release. Returns true if the license was installed prior to this release and false otherwise.
owner		string optional	Controller or Cluster that owns the serial number. Attributes: non-creatable, non-modifiable
package		licensed-package optional	Name of the licensed package. Attributes: key, required-for-create, non-modifiable Possible values: • "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
serial-number		node-serial-number optional	Serial number of the controller or cluster. The license serial-number is reported in Auto Support also and can be used to correlate controller or cluster wide licensing information. Attributes: key, required-for-create, non-modifiable
type		license-v2-type optional	License type. Attributes: non-creatable, non-modifiable Possible values: • "license" , • "site" , • "demo" , • "subscr" , • "capacity"

Element definition: **license-v2-license-info**

[top]

Information about Data ONTAP licenses. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
detailed-status		string[] optional	Detailed status of license. Attributes: non-creatable, non-modifiable
license		licensed-package optional	License Name. Attributes: key, non-creatable, non-modifiable Possible values: • "base" - (DEPRECATED)-Cluster Base License, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapCenter License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License, • "fabricpool" - FabricPool License, • "snapmirror_sync" - SnapMirror Synchronous License, • "nvme_of" - NVMe-oF License, • "flexcache" - (DEPRECATED)-FlexCache License, • "capacitypool" - Capacity Pool License, • "mt_ek_mgmt" - Multi-tenant Encryption Key Management License, • "s3" - S3 License, • "snapmirror_cloud" - SnapMirror Cloud License, • "anti_ransomware" - Autonomous Ransomware Protection License, • "s3_snapmirror" - S3-SnapMirror License, • "s3_snapmirror_external" - S3-SnapMirror External License, • "all_san_array" - All SAN Array (ASA) Software License, • "performance_nas" - Enhanced NAS License
scope		licensescope optional	Scope of the license. Valid scope: node/cluster/site. Attributes: non-creatable, non-modifiable Possible values: • "na" - License scope NA, • "site" - Site Scope, • "cluster" - Cluster Scope, • "node" - Node Scope, • "pool" - Pool Scope
			Current status of the license. Attributes: key, non-creatable, non-modifiable Possible values: • "not_compliant" - Not Compliant,

status		licensestatus optional	• "eval" - Evaluation License, • "partially_installed" - Partially Installed, • "valid" - Valid, • "not_installed" - Not Installed, • "not_applicable" - Not Applicable, • "not_known" - Not Known

Element definition: **license-v2-result**

[top]

License operation result When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Additional information of the failure. Attributes: non-creatable, non-modifiable
entry		license-code-v2 optional	Failed license entry. Attributes: non-creatable, non-modifiable
errcode		license-v2-op-status optional	Failure error code. Attributes: non-creatable, non-modifiable

Element definition: **license-v2-status-info**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the licensed package. Attributes: non-creatable, non-modifiable
expiration-time		datetime optional	License expiration date. Attributes: non-creatable, non-modifiable
method		licensed-method	Method in which a package is licensed in a cluster. Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "license" - License,

		optional	"site" - Site, • "demo" - Demo, • "subscr" - Subscription
package		licensed-package optional	Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
status-details		string optional	More information about cluster level license status. Attributes: non-creatable, non-modifiable

Element definition: **license-v2-subscription-info**

[top]

Information about a subscription license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alert		string optional	Alert message for the given period Attributes: non-creatable, non-modifiable
description		string optional	Description of the licensed package. Attributes: non-creatable, non-modifiable
expiration		datetime optional	License expiration time. Attributes: non-creatable, non-modifiable
is-default		true-false	Is the node using default license Attributes: non-creatable, non-

		optional	modifiable
owner		string optional	Node that owns the serial number. Attributes: non-creatable, non-modifiable
package		licensed-package optional	Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
serial-number		node-serial-number optional	Serial number of the node. Attributes: key, non-creatable, non-modifiable
state		licenseperiod optional	License state - valid/reminder/warning/enforcement. Attributes: non-creatable, non-modifiable Possible values: • "valid" - License is valid, • "reminder" - License is in reminder period, • "warning" - License is in warning period, • "enforcement" - License is in enforcement period

Element definition: **licensed-package**

[top]

Licensable Package Possible values:

- "base" - (DEPRECATED)-Cluster Base License,
- "nfs" - NFS License,
- "cifs" - CIFS License,
- "iscsi" - iSCSI License,
- "fcp" - FCP License,
- "snaprestore" - SnapRestore License,
- "snapmirror" - SnapMirror License,
- "flexclone" - FlexClone License,
- "snapvault" - SnapVault License,
- "snaplock" - SnapLock License,
- "snapmanagersuite" - SnapCenter License,

"snapprotectapps" - SnapProtectApp License,
- "v_storageattach" - Virtual Attached Storage License,
- "insight_balance" - OnCommand Balance,
- "ocshift" - OnCommand Shift License,
- "cloud" - Cloud ONTAP License,
- "select" - ONTAP Select License,
- "tpm" - Trusted Platform Module License,
- "ve" - Volume Encryption License,
- "dp_optimized" - Data Protection Optimized Secondary License,
- "fabricpool" - FabricPool License,
- "snapmirror_sync" - SnapMirror Synchronous License,
- "nvme_of" - NVMe-oF License,
- "flexcache" - (DEPRECATED)-FlexCache License,
- "capacitypool" - Capacity Pool License,
- "mt_ek_mgmt" - Multi-tenant Encryption Key Management License,
- "s3" - S3 License,
- "snapmirror_cloud" - SnapMirror Cloud License,
- "anti_ransomware" - Autonomous Ransomware Protection License,
- "s3_snapmirror" - S3-SnapMirror License,
- "s3_snapmirror_external" - S3-SnapMirror External License,
- "all_san_array" - All SAN Array (ASA) Software License,
- "performance_nas" - Enhanced NAS License

[none]

Element definition: **lm-config**

[top]

lm config info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
host		string optional	License Manager Host Attributes: non-creatable, modifiable

Element definition: **lm-status**

[top]

lm status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
status		string optional	Status Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

Element definition: **system-license-aggregate-info**

[top]

Information about Data ONTAP aggregate license status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-name		string optional	Aggregate name. Attributes: key, non-creatable, non-modifiable
aggr-size		size optional	Physical size of an aggregate. Attributes: non-creatable, non-modifiable
expiration		datetime optional	Lease expiration date of an aggregate. Attributes: non-creatable, non-modifiable
licensed-size		size optional	Licensed size. Attributes: non-creatable, non-modifiable
node		node-name optional	Node Name Attributes: key, non-creatable, non-modifiable
			Current status of an aggregate. Attributes: non-creatable, non-

status		aggrlicstatus optional	modifiable Possible values: • "lease_not_required" - Lease not required, • "lease_up_to_date" - Lease is up to date, • "lease_expired" - Lease expired, • "lease_missing" - Lease missing, • "plex_deleted" - Plex deleted, • "aggregate_deleted" - Aggregate deleted, • "aggregate_license_size_decreased" - Aggregate license size decreased, • "aggregate_license_size_increased" - Aggregate license size increased, • "aggregate_status_unknown" - Aggregate status unknown

Element definition: **aggrlicstatus**

[top]

Aggregate License Status Possible values:

- "lease_not_required" - Lease not required,
- "lease_up_to_date" - Lease is up to date,
- "lease_expired" - Lease expired,
- "lease_missing" - Lease missing,
- "plex_deleted" - Plex deleted,
- "aggregate_deleted" - Aggregate deleted,
- "aggregate_license_size_decreased" - Aggregate license size decreased,
- "aggregate_license_size_increased" - Aggregate license size increased,
- "aggregate_status_unknown" - Aggregate status unknown

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **license-code-v2**

[top]

License Code V2

[none]

Element definition: **license-entitlement-risk**

[top]

high|medium|low|unlicensed|unknown Possible values:

- "high" - Cluster license entitlement risk is high,
- "medium" - Cluster license entitlement risk is medium,
- "low" - Cluster license entitlement risk is low,
- "unlicensed" - No node-locked license present and corresponding features are not in use,
- "unknown" - License entitlement is unknown

[none]

Element definition: **license-entitlement-risk-action**

[top]

acquire-license|adjust-capacity|verify-entitlement|verify-system-health|none Possible values:

- "acquire_license" - Acquire a node-locked license,
- "adjust_capacity" - Acquire license for larger system disk capacity, or reduce system capacity,
- "verify_entitlement" - Verify all controllers are entitled,
- "verify_system_health" - Verify system health,
- "none" - None

[none]

Element definition: **license-v2-op-status**

[top]

License Operation Status Possible values:

- "license_success" - Operation Completed Successfully,
- "license_invalid" - Failed: Invalid License Key,
- "license_expired" - Failed: License Expired,
- "license_notallowed" - Failed: Operation Not Allowed,
- "license_unavailable" - Failed: License NOT Available,
- "license_internal" - Failed: Internal Error,
- "license_err_unknown" - Failed: Unknown Error

[none]

Element definition: **license-v2-type**

[top]

This field indicates the type of a license. A typical license will be of "license" type, which indicates that it's associated with a specific controller. A "site" license is a special license provided under Enterprise Level Agreements. A "demo" license is a temporary license with an expiration time. It is usually issued for trial purposes only. A "subscr" license is a subscription with expiration date. Possible values:

- "license" ,
- "site" ,
- "demo" ,
- "subscr" ,

"capacity"

[none]

Element definition: **licensed-method**

[top]

none|license|site|demo|subscr|capacity|enabled Possible values:

- "none" - None,
- "license" - License,
- "site" - Site,
- "demo" - Demo,
- "subscr" - Subscription,
- "capacity" - Capacity,
- "enabled" - Enabled

[none]

Element definition: **licenseperiod**

[top]

valid|reminder|warning|enforcement Possible values:

- "valid" - License is valid,
- "reminder" - License is in reminder period,
- "warning" - License is in warning period,
- "enforcement" - License is in enforcement period

[none]

Element definition: **licensescope**

[top]

License scope Possible values:

- "na" - License scope NA,
- "site" - Site Scope,
- "cluster" - Cluster Scope,
- "node" - Node Scope,
- "pool" - Pool Scope

[none]

Element definition: **licensestatus**

[top]

License status Possible values:

- "not_compliant" - Not Compliant,
- "eval" - Evaluation License,
- "partially_installed" - Partially Installed,
- "valid" - Valid,
- "not_installed" - Not Installed,
- "not_applicable" - Not Applicable,
- "not_known" - Not Known

[none]

Element definition: **node-license-usage-info**

[top]

Node-locked license information and usage status for each node.

Name	Range	Type	Description
in-use		true-false optional	Usage status for the node. Attributes: non-creatable, non-modifiable
is-licensed		true-false optional	Whether the node has a node-locked license. Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Node Serial Number Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

Element definition: **reported-capacity-state**

[top]

evaluation|warning|missing|enforcement|installed Possible values:

- "evaluation" ,
- "warning" ,
- "missing" ,
- "enforcement" ,
- "installed"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **true-false**

[top]

True/False

[none]

APIs in Category: **lock**

lock-break-iter
lock-get-iter

This set of APIs provides the ability to view or break the current lock state in the clustered ONTAP environment. Locks can be viewed or broken according to a wide range of query fields that are presented in the lock-info definition. When utilizing these APIs, it is suggested that users provide as many fields as possible to optimize query processing.

lock-break-iter

[top]

Breaks one or more locks in the cluster that match the query.

Input Name	Range	Type	Description
max-records	**[1..2^32-1]**	integer optional	The maximum number of lock objects to be operated in this call. Default: 20
query		lock-info optional	If operating on a specific lock, this input element must specify all keys. If operating on lock objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of lock objects (just keys) that were not operated on due to some error. If set to false, the list of lock objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of lock objects (just keys) that were successfully operated on. If set to false, the list of lock objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		lock-break-iter-info[] optional	Information about lock objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching lock objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of lock objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of lock objects that matched the query and were successfully processed.
success-list		lock-break-iter-info[] optional	The lock objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EVOLUMEQUIESCED	

EVOLUMEOFFLINE	
ELOCK_RECONSTRUCTION_IN_PROGRESS	
ELOCK_SYNC_IN_PROGRESS	
EINTERNALERROR	

lock-get-iter

[top]

Returns information for one or more locks in the cluster that match the query.

Input Name	Range	Type	Description
desired-attributes		lock-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lock-info optional	A query that specifies which locks to return. A query could be specified on any number of attributes in the lock object. All lock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lock-info[] optional	The list of attributes of lock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lock objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
ELOCK_RECONSTRUCTION_IN_PROGRESS	
EINTERNALERROR	

Element definition: **lock-break-iter-info**

[top]

Information about the operation that was attempted/performed against lock object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
lock-key		lock-info	The key for the lock object to which the operation applies.

Element definition: **lock-info**

[top]

Information about a single lock in the cluster. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bytelock-length	**[0..2^64-1]**	integer optional	The length starting from the offset for a bytelock. Attributes: non-creatable, non-modifiable
bytelock-offset	**[0..2^64-1]**	integer optional	The starting offset for a bytelock. Attributes: non-creatable, non-modifiable
client-address		string optional	The IP address (IPv4/IPv6) for a set of locks owned by a client. Unavailable for NFSv4 or NFSv4.1 locks. Attributes: non-creatable, non-modifiable
client-address-type		string optional	The IP address interface type the client is connected over. Unavailable for NFSv4 or NFSv4.1 locks. Possible values: • "ipv4" , • "ipv6" ,
client-id		string optional	A unique client-id for a set of locks owned by a client. Attributes: non-creatable, non-modifiable
delegation-type		string optional	The type of delegation the lock has (NFSv4 only). Attributes: non-creatable, non-modifiable Possible values: • "read" , • "write"
flexcache-cluster		string optional	The name of the cluster hosting the FlexCache volume.
flexcache-lock-authority		string optional	Indicates the lock authority granted/denied to a FlexCache volume.
flexcache-volume		string optional	The name of the FlexCache volume that is the endpoint of the caching relationship, and is holding the lock.
flexcache-vserver		string optional	The name of the Vserver hosting the FlexCache volume.
is-bytelock-exclusive		boolean optional	Indicates if the bytelock is exclusive. Attributes: non-creatable, non-modifiable
is-bytelock-mandatory		boolean optional	Indicates whether the bytelock is mandatory or advisory. Attributes: non-creatable, non-modifiable
is-bytelock-soft		boolean optional	Indicates if the bytelock is softened. Attributes: non-creatable, non-modifiable A bytelock can become soft if an NFSv4 client loses connection. A soft bytelock may be reclaimed if the client reconnects. However, if another client were to request a bytelock that conflicts with a softened bytelock, then the softened bytelock will be released.

is-bytelock-super		boolean optional	Indicates if the bytelock is a priveledged super lock. Attributes: non-creatable, non-modifiable A super bytelock is used to grant a byte range lock regardless of conflicting lock state on the system. If there is conflicting lock state, those locks will be released before graning the super lock.
is-constituent		boolean optional	This field indicates if this volume is a constituent within another volume. For a FlexGroup, this field is true for all its constituents. This field is set to false for volumes which are not the constituents of a FlexGroup, including for constituents of an Infinite Volume. Attributes: non-creatable, non-modifiable
is-flexcache-lock		boolean optional	This field indicates if it the lock is held on a FlexCache volume.
is-sharelock-soft		boolean optional	Indicates if the sharelock is softened. Attributes: non-creatable, non-modifiable A sharelock can become soft if an NFSv4 client loses connection. A soft sharelock may be reclaimed if the client reconnects. However, if another client were to request a sharelock that conflicts with a softened sharelock, then the softened sharelock will be released.
lif		string optional	The logical interface the lock was created over. Attributes: key, non-creatable, non-modifiable
lock-state		string optional	The state of the lock. Attributes: non-creatable, non-modifiable Possible values: • "granted" , • "revoking" , • "revoked" , • "gwaiting" , • "ewaiting" , • "adjusted" , • "denied" , • "timedout" , • "subsumed" , • "gone" , • "unused" , • "waiting" , • "timeout"
lock-type		string optional	The type of lock. Attributes: non-creatable, non-modifiable Possible values: • "byte_range" - locks over a specific byte range of a file, • "share_level" - represent file opens, • "op_lock" - provide client-side caching semantics for SMB, • "delegation" - provide client-side caching for NFSv4
lockid		uuid optional	A unique ID for a lock. Attributes: key, non-creatable, non-modifiable
node		string optional	The node that the lock is on. Attributes: non-creatable, non-modifiable
oplock-cache-level		string optional	The current caching level for an oplock. Attributes: non-creatable, non-modifiable Possible values: • "exclusive" , • "level2" , • "batch" , • "null" , • "read_batch"

owner-id		string optional	A unique owner-id for a set of locks belonging to an owner. Attributes: non-creatable, non-modifiable
path		string optional	The file path (/volume/file) that is being locked. Attributes: key, non-creatable, non-modifiable
protocol		string optional	The protcol the lock was created with. Attributes: non-creatable, non-modifiable Possible values: • "cifs" , • "fcache" , • "nfsv4" , • "nlm" , • "nfsv4.1" , • "crposix" , • "cdmi"
sharelock-mode		string optional	The sharing level of a lock. Attributes: non-creatable, non-modifiable Possible values: • "delete_on_close" , • "read_deny_read" , • "read_deny_write" , • "read_deny_all" , • "read_deny_delete" , • "read_deny_none" , • "read_deny_read_write" , • "read_deny_read_delete" , • "read_deny_write_delete" , • "write_deny_read" , • "write_deny_write" , • "write_deny_all" , • "write_deny_delete" , • "write_deny_none" , • "write_deny_read_write" , • "write_deny_read_delete" , • "write_deny_write_delete" , • "delete_deny_read" , • "delete_deny_write" , • "delete_deny_all" , • "delete_deny_delete" , • "delete_deny_none" , • "delete_deny_read_write" , • "delete_deny_read_delete" , • "delete_deny_write_delete" , • "read_write_deny_read" , • "read_write_deny_write" , • "read_write_deny_all" , • "read_write_deny_delete" , • "read_write_deny_none" , • "read_write_deny_read_write" , • "read_write_deny_read_delete" , • "read_write_deny_write_delete" , • "read_delete_deny_read" , • "read_delete_deny_write" , • "read_delete_deny_all" , • "read_delete_deny_delete" , • "read_delete_deny_none" , • "read_delete_deny_read_write" , • "read_delete_deny_read_delete" , • "read_delete_deny_write_delete" , • "write_delete_deny_read" ,

			• "write_delete_deny_write" , • "write_delete_deny_all" , • "write_delete_deny_delete" , • "write_delete_deny_none" , • "write_delete_deny_read_write" , • "write_delete_deny_read_delete" , • "write_delete_deny_write_delete" , • "all_deny_read" , • "all_deny_write" , • "all_deny_all" , • "all_deny_delete" , • "all_deny_none" , • "all_deny_read_write" , • "all_deny_read_delete" , • "all_deny_write_delete" , • "none_deny_read" , • "none_deny_write" , • "none_deny_all" , • "none_deny_delete" , • "none_deny_none" , • "none_deny_read_write" , • "none_deny_read_delete" , • "none_deny_write_delete"
smb-connect-state		string optional	The connect state for a lock. (SMB only). Attributes: non-creatable, non-modifiable Possible values: • "connected" , • "disconnected" , • "reconnecting" , • "timedout"
smb-expiration-time	**[0..2^32-1]**	integer optional	The time left until a lock expires after being disconnected. (SMB only). Attributes: non-creatable, non-modifiable
smb-open-group-id		string optional	A unique open group ID for a set of locks. (SMB only). Attributes: non-creatable, non-modifiable
smb-open-type		string optional	The type of open for a lock (SMB only). Attributes: non-creatable, non-modifiable Possible values: • "none" , • "durable" , • "persistent"
volume		string optional	The volume containing the files that are locked. Attributes: key, non-creatable, non-modifiable
vserver		string optional	The vserver the lock is associated with. Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **lun**

lun-alignment-get-iter
lun-alignment-reset-statistics
lun-clear-persistent-reservation-info
lun-clone-list-info
lun-clone-split-start
lun-clone-split-status-list-info
lun-clone-split-stop
lun-clone-start
lun-clone-status-list-info
lun-clone-stop
lun-config-check-alua-conflicts-info
lun-config-check-cfmode-info
lun-config-check-info
lun-config-check-single-image-info
lun-config-check-wwpn-conflicts-info
lun-copy-cancel
lun-copy-get-iter
lun-copy-modify
lun-copy-pause
lun-copy-resume
lun-copy-start
lun-create-by-size
lun-create-clone
lun-create-from-file
lun-create-from-snapshot
lun-destroy
lun-generate-serial
lun-get-attribute
lun-get-attributes
lun-get-comment
lun-get-geometry
lun-get-inquiry-info
lun-get-iter
lun-get-maxsize
lun-get-minsize
lun-get-occupied-size
lun-get-persistent-reservation-info
lun-get-select-attribute
lun-get-serial-number
lun-get-space-reservation-info
lun-get-target-device-id
lun-get-vdisk-attributes
lun-has-scsi-reservations
lun-import-create
lun-import-delete
lun-import-get-iter
lun-import-pause
lun-import-resume
lun-import-start

lun-import-stop
lun-import-throttle
lun-import-verify-start
lun-import-verify-stop
lun-initiator-list-map-info
lun-initiator-logged-in
lun-list-info
lun-map
lun-map-add-reporting-nodes
lun-map-get-iter
lun-map-list-info
lun-map-remove-reporting-nodes
lun-move
lun-move-cancel
lun-move-get-iter
lun-move-modify
lun-move-pause
lun-move-resume
lun-move-start
lun-offline
lun-online
lun-os-type-list
lun-port-has-scsi-reservations
lun-reset-stats
lun-resize
lun-restore-status
lun-set-attribute
lun-set-comment
lun-set-device-id
lun-set-qos-policy-group
lun-set-select-attribute
lun-set-serial-number
lun-set-share
lun-set-space-alloc
lun-set-space-reservation-info
lun-snap-usage-list-info
lun-start
lun-stats-get-iter
lun-stats-list-info
lun-unmap
lun-unset-attribute
lun-unset-device-id

lun-alignment-get-iter

[top]

Iterate over a list of lun objects.

Input Name	Range	Type	Description
desired-		lun-align-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-align-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-align-info[] optional	The list of attributes of lun objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lun objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-alignment-reset-statistics

[top]

Reset LUN Alignment Statistics

Input Name	Range	Type	Description
path		lun-path	Path of the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

lun-clear-persistent-reservation-info

[top]

Clear the SCSI-2 reservation or SCSI-3 persistent reservation information for a given LUN. Note: In Data ONTAP Cluster-Mode, the LUN must either be offline or not mapped to clear the persistent reservation information.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.

Errno	Description
EVDISK_ERROR_NO_SUCH_VDISK	

EVOLUMEBUSY	
EVDISK_ERROR_VDISK_NOT_DISABLED	

Vfiler-enabled
Yes

lun-clone-list-info

[top]

Lists all LUN clones with valid backing snapshots in the given snapshot.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot.
volume		string	Name of the volume.

Output Name	Range	Type	Description
lun-clone-list		lun-clone-lists-info[]	List of LUN clones with valid backing snapshots in the given snapshot.

Errno	Description
EINVALIDINPUTERROR	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_NO_SUCH_SNAPSHOT	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-split-start

[top]

Start the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the clone to split from the underlying parent.
space-efficient-split-disabled		boolean optional	By default 'false', space-efficient LUN clone splitting is allowed. This parameter, if set to 'true', disables space-efficient splitting for this specific operation.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_CLONING_STARTED	

Errno	Description
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-split-status-list-info

[top]

Get the cloning status of LUN(s).

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
clone-status		clone-status-info[]	List of cloning statuses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-split-stop

[top]

Stop the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN to stop cloning.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

[top]

lun-clone-start

Start the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN to clone.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_CLONING_STARTED	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-status-list-info

[top]

Get the cloning status of LUN(s).

Input Name	Range	Type	Description
path		string optional	Path of the LUN. If path is specified, only the status of that clone is returned. If path is not specified, then all cloning status are returned.

Output Name	Range	Type	Description
clone-status		clone-status-info[]	List of cloning status.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVDISK_ERROR_NO_SUCH_CLONE	
EVDISK_ERROR_CLONE_NOT_SPLITTING	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-stop

[top]

Stop the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN to stop cloning.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-config-check-alua-conflicts-info

[top]

Returns a list of LUNs that have both FCP and iSCSI maps at the same time when ALUA is enabled on at least one of such FCP or iSCSI igroups. These conflicts must be resolved before any further maps (to those LUNs) can can take place.

Output Name	Range	Type	Description
conflicting-luns		conflicting-luns-list[] optional	If a lun is mapped to both FCP and iSCSI igroups at at the same time with ALUA enabled on at least one of those igroups, it leads to a conflict. These conflicts need to be resolved before any further maps can take place to the conflicting lun. Conflicts can either be resolved by unmapping one or more mappings or by disabling ALUA on FCP or iSCSI or both the igroups whichever is applicable.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP;	

lun-config-check-cfmode-info

[top]

Returns a list of configuration warnings related to initiator groups and the FCP cfmode setting

Output Name	Range	Type	Description
fcp-cfmode		string optional	Current FCP cfmode setting. Possible values: dual_fabric, mixed, partner, standby, single_image
invalid-cfmode-settings		invalid-cfmode-setting-info optional	Local and partner cfmode settings if they do not match. cfmodes need to match on both filers in the cluster or cluster failover will not work properly
invalid-ostype-cfmode-settings		invalid-ostype-cfmode-setting-info[] optional	List of initiator groups with invalid OS types for the fcp-cfmode. Some host operating systems are only compatible with certain fcp-cfmodes

invalid-use-partner-cfmode-settings		invalid-use-partner-cfmode-setting-info[] optional	List of initiator groups with invalid use_partner settings for the FCP cluster failover mode (fcp-cfmode) Incorrect settings can cause hosts to lose LUNs during takeover.
invalid-use-partner-ostype-settings		invalid-use-partner-ostype-setting-info[] optional	List of initiator groups with invalid use_partner settings for the initiator group's OS type. Some host operating systems should only have certain use_partner settings to ensure proper behavior during failover.

Errno	Description
EINTERNALERROR	
EINVAL	

lun-config-check-info

[top]

Returns a list of LUN/FCP configuration warnings. These warnings are not related to filer cluster configuration.

Output Name	Range	Type	Description
alua-setting-mismatch-info		alua-setting-mismatch-initiator-group[] optional	list of initiator groups for which the ALUA (Asymmetric Logical Unit Access) settings do not match between local and partner filers. ALUA is a T10 standard that specifies the access characteristics (in terms of performance and supported SCSI commands) of a Logical Unit that can be accessed through more than one target port. ALUA is typically used by host multi-path software to recognize primary and secondary paths to a Logical Unit when more than one path are available to the Logical Unit. If the ALUA setting does not match between the local and partner filers, it would affect the host multi-path software's ability to distinguish primary and secondary paths. This could lead to incorrect system behaviour.
alua-setting-mismatch-initiators		alua-setting-mismatch-initiator-info[] optional	List of initiators which are members of initiator groups of differing alua settings.
fcp-down-hbas		fcp-down-hba-info[] optional	list of HBA names that have no link or are configured down.
invalid-vsa-settings		invalid-vsa-setting-info[] optional	List of initiator groups with invalid Volume Set Addressing (VSA) settings
mixed-ostype-initiators		mixed-ostype-initiator-info[] optional	List of initiators which are members of initiator groups of differing OS types.
mixed-vsa-		mixed-vsa-	List of initiators which are members of initiator groups with differing Volume Set Addressing (VSA) settings. An initiator can only be a

initiators		initiator-info[] optional	member of initiator groups which have the same VSA setting across all the initiator groups it is a member of.

Errno	Description
EINTERNALERROR	
EINVAL	

lun-config-check-single-image-info

[top]

Returns a list of configuration warnings that pertain to problems specific to the 'single_image' FCP cfmode. These errors must be fixed prior to upgrading any filer cluster to run in 'single_image' mode.

Output Name	Range	Type	Description
conflicting-initiators		conflicting-initiator-info[] optional	List of initiators which belong to initiator groups on the local filer which have different os type settings from the initiator groups on the partner.
conflicting-maps		conflicting-map-info[] optional	Only one lun in the cluster can be mapped to an initiator at a given lun-id. If a lun on each filer is mapped to the same initiator at the same lun-id there will be a conflict. These conflicts need to be resolved before a filer can be upgraded to run in the 'single_image' FCP cfmode. A conflict can be resolved by unmapping one lun and remapping it to an unused lun-id.
invalid-nodename-settings		invalid-nodename-setting-info optional	When running in the the single_image cfmode the FCP node name needs to be same on each filer in the cluster. If the node names are different the node names will be returned. If the cfmode is not set to single_image, then the node names will not be checked

Errno	Description
EVDISK_ERROR_PARTNER_NOT_REACHABLE	

lun-config-check-wwpn-conflicts-info

[top]

Determine if duplicate World Wide Port Names (WWPNs) are present on a cluster pair.

Output Name	Range	Type	Description
conflicting-wwpns		conflict-wwpn[] optional	If duplicate World Wide Port Names (WWPNs) are present on the HA pair, it leads to a conflict. This causes incorrect Asymmetric Logical Unit Access (ALUA) states to be advertised for all LUNs. To resolve the conflict use 'lun config set' command to set local.single_image.key and partner.single_image.key on both the nodes of the HA pair.

Errno	Description
EOPNOTSUPPORTED	
EONTAPI_ENOMEM	

lun-copy-cancel

[top]

Cancels an ongoing LUN copy operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, use the lun-destroy API to delete the LUN at the destination path.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	
EOD_CANT_CANCEL_OPERATION	

lun-copy-get-iter

[top]

Iterate over a list of LUN copy job detail objects.

Input Name	Range	Type	Description
desired-attributes		lun-copy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-copy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN copy job detail object. All LUN copy job detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-copy-info[] optional	The list of attributes of LUN copy job detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more LUN copy job detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-copy-modify

[top]

Modifies the maximum throughput of an ongoing copy operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.
max-throughput		size	Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-copy-pause

[top]

Pauses an ongoing LUN copy operation. Use the lun-copy-resume API to resume the copy operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

[top]

lun-copy-resume

Resumes a paused LUN copy operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-copy-start

[top]

Starts copying a group of LUNs from one volume to another. The destination volume can be located on the same Vserver as the original volume or on a different Vserver. If source-vserver is not specified, the source Vserver defaults to the target Vserver, i.e., an intra-Vserver copy. Intra-Vserver copy can be initiated by both cluster and Vserver administrators. Inter-Vserver copy can be initiated by cluster administrators only. Note: A cluster administrator must first create a Vserver peer relationship using vserver-peer-create API before a Vserver administrator can copy over LUNs from another Vserver in the cluster. This restriction does not apply to cluster administrators. Cluster administrators can initiate inter-Vserver LUN copy operations without creating a Vserver peer relationship.

Input Name	Range	Type	Description
destination-vserver		vserver-name	Specifies the name of the Vserver that will host the new LUNs.
max-throughput	**[0..2^63-1]**	integer optional	Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.
paths		lun-path-pair[]	Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be copied. All the source LUNs must be on the same volume. All the LUNs must be copied into a single volume.
promote-early		boolean optional	Specifies that the destination needs to be promoted early. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN copy operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN copy job will not block snapshots of the volume containing the new LUN.
			Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being copied will be transferred as a difference from the reference LUN.

reference-path		string optional	This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified.
source-vserver		vserver-name optional	Specifies the name of the Vserver hosting the LUNs to be copied. Default: same as destination-vserver (intra-Vserver copy).

Output Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) for the LUN copy job.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EOD_INVALID_ECV	
EOD_DEST_LUN_EXISTS	
EOD_DEST_LUNS_NOT_ON_SAME_VOLUME	
EOD_DEST_IS_FLEXCACHE	
EQTREE_DOES_NOT_EXIST	
EOP_DISALLOWED_VSERVER_ROOT	
EOD_COPY_DUP_DEST_PATH	
EOD_SRC_LUN_NOT_FOUND	
EOD_SRC_LUNS_NOT_ON_SAME_VOLUME	
EOD_SRC_LUN_IS_PE	
EOD_LUN_IN_NVFAILED_STATE	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EOD_LUN_MAX_COUNT_VIOLATION	
EOD_REF_PATH_NOT_IN_SOURCE_PATHS	
EOD_COPY_DEST_IS_SNAPSHOT	
EOD_NO_VSERVER_PEERING	
EOD_VSERVER_PEERING_NO_LUN_COPY_APP	
EOD_VSERVER_PEERING_NOT_READY	
EOD_DEST_IN_CFT_PRECOMMIT	

lun-create-by-size

[top]

Create a new lun of given size, with initially zero contents. The lun is created at the path given. No file should already exist at the given path. The directory specified in the path must be a qtree root directory. The size of the created lun could be larger than the size specified, in order to get an integral number of cylinders while reporting the geometry using SAN protocols.

Input Name	Range	Type	Description
class		string optional	The class of the LUN. Possible values: • "regular" - The LUN is for normal blocks access, • "protocol_endpoint" - The LUN is a vvol protocol endpoint, • "vvol" - The LUN is a vvol data LUN. The default value is "regular".

comment		string optional	A description for the LUN being created. The comment can be at most 254 characters.
foreign-disk		string optional	Foreign Disk serial number. New size of the LUN will be of exact capacity as that of the Foreign Disk. For Foreign LUN Import, the LUN and Foreign Disk must be the exact same capacity. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode. This field is available in Data ONTAP 8.3 and later.
ostype		lun-os-type optional	The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it.
path		string	Path of the LUN.
prefix-size	**[0..2^63-1]**	integer optional	The size of the prefix stream for this lun in bytes. Certain OS types store a small portion of the data corresponding to partition tables (or similar structures) in the prefix stream. This is part of the lun data and is transparent to hosts that access the LUN via block protocols. The default size is based on the OS type. Giving a value here overrides the default, but, it is strongly recommended to avoid changing this default size. The value in this field must be a multiple of 512 bytes. Note that this value has no effect when the lun-os-type is "image". This option is available in Data ONTAP 8.1 and later.
qos-adaptive-policy-group		string optional	QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later
qos-policy-group		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later
size	**[0..2^63-1]**	integer optional	New size for the LUN in bytes. This field is required for Data ONTAP 7-Mode. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode.
space-allocation-enabled		boolean optional	The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space allocation. The default is false.
space-reservation-enabled		boolean optional	Default is true. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved.
use-exact-size		boolean optional	Use the exact size specified instead of rounding to best fit geometry. If true, size must be a multiple of 512. The default value is false. This field may not be specified in combination with foreign-disk. This field is available in Data ONTAP 9.2 and later.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	The actual size of the LUN that was created, in bytes.

Errno	Description
EINVALIDINPUTERROR	
EOFFLINE	
EISDIR	
EONTAPI_EEXIST	

ENAMETOOLONG
EONTAPI_ENOENT
EFTYPE
EONTAPI_EINVAL
EONTAPI_ENOSPC
EOP_DISALLOWED_VSERVER_ROOT
EVDISK_ERROR_NOT_QTREE_ROOT
EVDISK_ERROR_NO_SUCH_VOLUME
EVDISK_ERROR_NO_SUCH_DIRECTORY
EVDISK_ERROR_FILE_IS_SPC_RESERVED
EVDISK_ERROR_INVALID_SNAPSHOT_PATH
EVDISK_ERROR_NOT_IN_SAME_VOLUME
EVDISK_ERROR_SIZE_TOO_SMALL
EVDISK_ERROR_SIZE_TOO_LARGE
EVDISK_ERROR_VDISK_EXISTS
EVDISK_ERROR_VOLUME_SPARSE
EVDISK_ERROR_TOO_MANY_LUNS
EVDISK_SYNC_CAPB_MISMATCH
EVOLUMEBUSY
E_QOS_OBJECT_OVERLAP_ERROR
E_QOS_NO_SUCH_PG
E_QOS_TOO_MANY_USER_WIDS
E_QOS_VSERVERIZATION_VIOLATION
E_QOS_LUN_CREATE_MODIFY
E_QOS_LUN_PG_REMOVE
EFLI_ERROR_NO_SUCH_FOREIGN_DISK
EFLIHI_DISK_READ_ERROR
EFLIHI_INVALID_FIELD
EFLIHI_RESOURCE_LIMIT
EFLI_UNSUPPORTED_SECTOR_SIZE

Vfiler-enabled
Yes

lun-create-clone

[top]

Create a LUN clone.

Input Name	Range	Type	Description
parent-lun-path		string	Path of original LUN.
parent-snap		string	LUN path of the backing snapshot.
path		string	Path of the LUN clone.
space-reservation-enabled		boolean optional	By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_CLONING_STARTED	
EVOLUMEBUSY	
EVDISK_ERROR_SOURCE_IS_VMALIGNED	

Vfiler-enabled
Yes

lun-create-from-file

[top]

Create a lun from an existing file. A new lun is created, at the given lun path (which must be at a qtree root). A hard link is created to the existing file. The file contents are not copied or changed. The file can be resized to a larger size, rounding up to a cylinder boundary. NOTE: LUNs created from files cannot be relocated.

Input Name	Range	Type	Description
class		string optional	The class of the LUN. Possible values: • "regular" - The LUN is for normal blocks access, • "protocol_endpoint" - The LUN is a vvol protocol endpoint, • "vvol" - The LUN is a vvol data LUN. The default value is "regular".
comment		string optional	A description for the LUN being created. The comment can be at most 254 characters.
file-name		string	A fully qualified filer path to the file to create the LUN from. This must be in the same qtree as the LUN being created. The file must also be in the root of the volume or in a qtree/regular directory in the root of the volume or in a regular directory in a qtree.
ostype		lun-os-type optional	The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it.
path		string	Would be Path of the newly created LUN if successful. This Path must not exist already (i.e a file or dir with this same path).
qos-adaptive-policy-group		string optional	QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later
qos-policy-group		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later
space-allocation-enabled		boolean optional	The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space

			allocation. The default is false.
space-reservation-enabled		boolean optional	Default is true. If it is desired to manage space usage manually instead, this can be set to false which will create a LUN without any space being reserved.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	The actual size of the LUN that was created, in bytes.

Errno	Description
EINVALIDINPUTERROR	
EOFFLINE	
EISDIR	
EONTAPI_EEXIST	
ENAMETOOLONG	
EONTAPI_ENOENT	
EFTYPE	
EONTAPI_EINVAL	
EONTAPI_ENOSPC	
EOP_DISALLOWED_VSERVER_ROOT	
EVDISK_ERROR_NOT_QTREE_ROOT	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_NO_SUCH_DIRECTORY	
EVDISK_ERROR_SOURCE_IS_VDISK	
EVDISK_ERROR_FILE_IS_SPC_RESERVED	
EVDISK_ERROR_INVALID_SNAPSHOT_PATH	
EVDISK_ERROR_NOT_IN_SAME_VOLUME	
EVDISK_ERROR_SIZE_TOO_SMALL	
EVDISK_ERROR_SIZE_TOO_LARGE	
EVDISK_ERROR_VDISK_EXISTS	
EVDISK_ERROR_VOLUME_SPARSE	
EVOLUMEBUSY	
EVDISK_ERROR_SOURCE_IS_VMALIGNED	
EVDISK_ERROR_UNSUPPORTED_INPUT	
EVDISK_ERROR_TOO_MANY_LUNS	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_LUN_CREATE_MODIFY	
E_QOS_LUN_PG_REMOVE	

Vfiler-enabled
Yes

lun-create-from-snapshot

[top]

Creates a LUN in the active file system. The lun has the same initial contents as the referenced snapshot copy of an existing lun. (Note that no copy of the data is made.) Future writes go into the new lun. Reads of unmodified data are satisfied from the snapshot location. Reads of modified data are satisfied by first attempting to find the required buffer in the new lun. If a buffer is not found (buffer corresponds to a hole), it is looked for in the snapshot copy instead.

Input Name	Range	Type	Description
path		string	Path of the LUN.
snapshot-lun-path		string	LUN path in the snapshot to be created from.
space-reservation-enabled		boolean optional	By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved.
type		lun-os-type optional	The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	The actual size of the LUN that was created, in bytes.

Errno
EINVALIDINPUTERROR
EOFFLINE
EISDIR
EONTAPI_EEXIST
ENAMETOOLONG
EONTAPI_ENOENT
EFTYPE
EONTAPI_EINVAL
EONTAPI_ENOSPC
EVDISK_ERROR_NOT_QTREE_ROOT
EVDISK_ERROR_NO_SUCH_VOLUME
EVDISK_ERROR_NO_SUCH_DIRECTORY
EVDISK_ERROR_SOURCE_IS_VDISK
EVDISK_ERROR_FILE_IS_SPC_RESERVED
EVDISK_ERROR_INVALID_SNAPSHOT_PATH
EVDISK_ERROR_NOT_IN_SAME_VOLUME
EVDISK_ERROR_SIZE_TOO_SMALL
EVDISK_ERROR_SIZE_TOO_LARGE
EVDISK_ERROR_VOLUME_SPARSE
EVOLUMEBUSY

Vfiler-enabled
Yes

lun-destroy

[top]

Destroy the specified LUN. This operation will fail if the LUN is currently mapped and is online. The force option can be used to destroy it regardless of being online or mapped.

Input Name	Range	Type	Description
destroy-application-lun		boolean optional	Required to delete a LUN that belongs to an application. If true, override checks that prevent a LUN from being destroyed while it is part of an application. The default if not specified is "false". This field is available in Data ONTAP 9.2 and later.
destroy-fenced-lun		boolean optional	If "true", override checks that prevent a LUN from being destroyed while it is fenced. If "false", attempting to destroy a fenced LUN will fail. The default if not specified is "false". This field is available in Data ONTAP 8.2 and later.
force		boolean optional	If "true", override checks that prevent a LUN from being destroyed if it is online and mapped. If "false", destroying an online and mapped LUN will fail. The default if not specified is "false".
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_EXPORTED	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_VOLUME_TRANSITIONING	
EVDISK_ERROR_LUN_IN_SYNC_DR_CG	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-generate-serial

[top]

Generate a LUN Serial Number for later use.

Output Name	Range	Type	Description
serial-number		string	Serial Number

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

lun-get-attribute

[top]

Get a named attribute for a given LUN.

Input Name	Range	Type	Description
name		string	Attribute to get.
path		string	Path of the LUN.

Output Name	Range	Type	Description
value		string	Value of the attribute.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	

Vfiler-enabled
Yes

lun-get-attributes

[top]

Get named attributes for a given LUN.

Input Name	Range	Type	Description
name		string optional	Filter for the requested attribute names. SMF wildcards are allowed. If not specified, all available attributes on the LUN will be returned.
path		string	Path of the LUN.

Output Name	Range	Type	Description
attributes		lun-attribute-info[] optional	List of selected attribute name/value pairs. If there are not user attributes set on the LUN, or no attributes match the 'name' filter if specified, this field will not be returned.

Errno	Description
EINVALIDINPUTERROR	

lun-get-comment

[top]

Get the optional descriptive comment for a LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description

comment		string	Comment for given LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-geometry

[top]

Get SCSI disk geometry for a given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
bytes-per-sector	**[0..2^31-1]**	integer	Sector size in bytes.
cylinders	**[0..2^31-1]**	integer optional	Number of cylinders in the LUN The size of the LUN can be calculated like this: cylinders tracks-per-cylinder sectors-per-track X bytes-per-sector ---------- size This field is not present for LUNs that do not report Cylinder-Head-Sector geometry.
max-resize-size	**[0..2^63-1]**	integer	The maximum size this LUN can be resized to in bytes. LUN resize for LUNs that report Cylinder-Head-Sector (CHS) geometry is limited by the lun cylinder size which can not be increased beyond 65535. This number is calculated using a cylinder count of 65535, in place of the LUNs actual cylinder size. LUNs that do not report CHS geometry may be resized to the maximum LUN size supported by the current Data ONTAP version.
sectors-per-track	**[0..2^31-1]**	integer optional	Number of sectors in a track. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry.
size	**[0..2^63-1]**	integer	LUN size in bytes.
tracks-per-cylinder	**[0..2^31-1]**	integer optional	Number of tracks in a cylinder. This is also commonly referred to as the number of heads. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-inquiry-info

[top]

Get the SCSI INQUIRY response data for vendor id (vid), product id (pid), and firmware revision (rev) based on the igroup that the lun in question is mapped to.

Input Name	Range	Type	Description
initiator-group-name		string	The initiator group for which the vid/pid/rev information is to be returned.

Output Name	Range	Type	Description
firmware-revision		string	SCSI INQUIRY response revision (padded with spaces to 4-characters).
product-id		string	SCSI INQUIRY response product id (padded with spaces to 16-characters).
vendor-id		string	SCSI INQUIRY response vendor id (padded with spaces to 8-characters).

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	

Vfiler-enabled
Yes

lun-get-iter

[top]

Iterate over a list of lun objects.

Input Name	Range	Type	Description
desired-attributes		lun-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
disallow-lldb		boolean optional	Disallow use of the LUN location database. When true, this will cause the system to scan every volume for LUNs rather than directing the search to only those volumes known to have LUNs.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-info[] optional	The list of attributes of lun objects.

next-tag		string optional	Tag for the next call. Not present when there are no more lun objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
volume-errors		volume-error[] optional	List of errors encountered while retrieving LUN inventory

Errno	Description
EINTERNALERROR	

lun-get-maxsize

[top]

Returns the maximum possible size in bytes of a lun on a given volume or qtree. The user can pass the path to a volume or qtree in which the lun is to be created. This returns the maximum size for different types of LUNs and the possible maximum size with or without snapshot reserves.

Input Name	Range	Type	Description
path		string	Path of the volume or qtree.
type		lun-os-type	OS type of the LUN.

Output Name	Range	Type	Description
with-complete-snapshot-reserve	**[0..2^63-1]**	integer	Maximum possible size for LUN with snapshot reserve assuming 100% fractional reserve
with-snapshot-reserve	**[0..2^63-1]**	integer	Maximum possible size for LUN with snapshot reserve.
without-snapshot-reserve	**[0..2^63-1]**	integer	Maximum possible size for LUN without snapshot reserve.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EOP_DISALLOWED_VSERVER_ROOT	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-minsize

[top]

Returns the minimum possible size in bytes. This returns the minimum size for different types of LUNs (based on the specified OS type). Space reservation does not affect the minimum lun size, thus only a single minimum size is returned.

Input Name	Range	Type	Description

type		lun-os-type	OS type of the LUN.

Output Name	Range	Type	Description
min-size	[0..2^63-1]	integer	Minimum possible size for LUN.

Errno	Description
EINVALIDINPUTERROR	

lun-get-occupied-size

[top]

Get the size occupied by the LUN in the active FS.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
occupied-size	[0..2^63-1]	integer	Size occupied by the LUN in the Active FS in bytes.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EONTAPI_ESTALE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-persistent-reservation-info

[top]

Get the persistent reservation information for a given LUN.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.

Output Name	Range	Type	Description
persistent-reservation		persistent-reservation-info[] optional	This is the persistent reservation information for a given I_T nexus if any exist for the given lun. The communication path and state between an initiator and a target is called an Initiator_Target Nexus, or I_T Nexus. The I_T Nexus is the owner of the persistent reservation information. There can be several I_T Nexus that have registered per lun. Each I_T Nexus can only register one time per lun.

Errno	Description
EVDISK_ERROR_NO_SUCH_VDISK	

EONTAPI_ENOMEM	
EINVALIDINPUTERROR	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-select-attribute

[top]

Get the select attribute for the specified LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
creation-time		string	The time this lun was created, in human readable format. This field is deprecated in Data ONTAP 8.1. Instead, use creation-timestamp.
creation-timestamp	**[0..2^31-1]**	integer	The time this lun was created, in seconds since January 1, 1970. This field is available in Data ONTAP 8.1 and later.
previous-serial		string optional	The serial number of the previous lun. If this lun is not a clone or copy, no previous-serial number exists.
select-attribute		string	The select attribute for the lun. Possible values: • "active" - this is an active lun, • "copy" - this is a clone or copy of an active lun, • "mirror" - this is a mirror of an active lun.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-serial-number

[top]

Get the serial number for the specified LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ .

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
serial-number		string	Serial number for the LUN.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-space-reservation-info

[top]

Queries the space reservation settings for the named LUN.

Input Name	Range	Type	Description
path		string	Name of the LUN to be queried.

Output Name	Range	Type	Description
is-enabled		boolean	Whether or not the LUN has space reservation enabled.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-get-target-device-id

[top]

Returns the SCSI Target Device Id.

Input Name	Range	Type	Description
lun-serial-id		string	Serial number of the lun.

Output Name	Range	Type	Description
target-device-id		string	SCSI Target Device Id. This is defined by Network Appliance. Currently a string of numbers preceded by "naa.600A098".

Errno	Description

Errno	Description
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

lun-get-vdisk-attributes

[top]

Lookup a LUN path and storage system by serial number.

Input Name	Range	Type	Description
serial-number		string	Serial number for the LUN.

Output Name	Range	Type	Description
filer-name		string	In Data ONTAP 7-Mode, this is the name of the storage system or vfiler containing the LUN. In Data ONTAP Cluster-Mode, this is the name of the Vserver containing the LUN.
path		string	Path for the specified LUN, for example: "/vol/vol0/lun1".
vdisk-snapshot-name		string	Path to the backing snapshot file for the LUN, for example: "/vol/vol1/.snapshot/snapshot/lun". This field will be empty if the LUN is not backed by a snapshot file.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
ENOENT	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.

Output Name	Range	Type	Description
is-reservation-held		boolean	'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise.

Errno	Description
EINVALIDINPUTERROR	

EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-import-create

[top]

Create a LUN import relationship with the purpose of importing foreign disk data into the LUN.

Input Name	Range	Type	Description
foreign-disk		string	Foreign Disk Serial Number
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_ERROR_NO_SUCH_FOREIGN_DISK	
EFLI_ERROR_DISK_NOT_MARKED_FOREIGN	
EFLI_FOREIGN_DISK_ALREADY_IN_IMPORT	
EFLI_LUN_ALREADY_IN_IMPORT	
EFLI_CAPACITY_MISMATCH	
EFLI_BLOCK_SIZE_MISMATCH	
EFLI_FOREIGN_DISK_NOT_ACCESSIBLE	
EFLI_FOREIGN_DISK_HAS_NO_LOCAL_PATH	
EFLI_FOREIGN_DISK_OPEN_FAILED	
EFLI_LUN_NOT_MAPPED	
EFLI_LUN_NOT_BOUND	
EFLI_FOREIGN_DISK_HAS_RESERVATIONS_ZAPI	
EFLI_LUN_SHOULD_BE_OFFLINE	
EFLI_NOT_REGULAR_LUN	
EFLI_SPACE_ALLOC_NOT_ALLOWED	
E_SAN_NOT_READY	

lun-import-delete

[top]

Deletes the import relationship of the specified LUN or the specified foreign disk.

Input Name	Range	Type	Description
force		boolean optional	Force flag. If set to true, the import relationship would be deleted even if import is in progress. Default: false
foreign-		string	

disk		optional	Foreign disk serial number
path		lun-path optional	Path of the LUN
vserver		string optional	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_ERROR_NO_SUCH_FOREIGN_DISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_FOREIGN_DISK_NOT_IN_IMPORT	
EFLI_IMPORT_IN_PROGRESS	
EFLI_IMPORT_VERIFY_IN_PROGRESS	
EFLI_FOREIGN_DISK_IMPORT_IN_PROGRESS	
EFLI_FOREIGN_DISK_IMPORT_VERIFY_IN_PROGRESS	
EFLI_DELETE_NO_LUN	
EFLI_DELETE_NO_LUN_FOREIGN_DISK	
E_SAN_NOT_READY	

lun-import-get-iter

[top]

Iterate over a list of LUN objects that are in a relationship with a foreign disk.

Input Name	Range	Type	Description
desired-attributes		lun-import-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-import-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Foreign LUN Import relationship object. All Foreign LUN Import relationship objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-import-info[] optional	The list of attributes of Foreign LUN Import relationship objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Foreign LUN Import relationship objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

lun-import-pause

[top]

Pause the import for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_NOT_STARTED	
EFLI_IMPORT_ALREADY_STARTED	
EFLI_IMPORT_COMPLETED	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-resume

[top]

Resume the import for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_NOT_PAUSED	
EFLI_RESUME_FAILED	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-start

[top]

Start the import for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_VERIFY_IN_PROGRESS	
EFLI_IMPORT_ALREADY_STARTED	
EFLI_IMPORT_IN_PAUSED_ZAPI	
EFLI_DST_NO_SPACE	
EFLI_DST_NOT_AVAILABLE	
EFLI_VERIFY_ACTIVE	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-stop

[top]

Stop and abort the import for the specified LUN. All import checkpoint data will be lost.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_NOT_STARTED	
EFLI_IMPORT_ALREADY_STOPPED	
EFLI_NOT_READY	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-throttle

[top]

Modify the max throughput limit for the specified import relationship

Input Name	Range	Type	Description
max-throughput-limit		size	Maximum Throughput Limit(in bytes per sec) at which the given import will be throttled.
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_NOT_CURRENT_NODE	
EFLI_THROTTLE_NOSUPPORT	
E_SAN_NOT_READY	

lun-import-verify-start

[top]

Start the verification of the foreign disk and LUN data. The import admin/operational state must be stopped/stopped or started/completed. The verification does a block for block comparison of the LUN and foreign disk. If the verification detects a mismatch between the foreign disk and LUN then the verify will stop.

Input Name	Range	Type	Description
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_VERIFY_ALREADY_STARTED	
EFLI_NOT_CURRENT_NODE	
EFLI_IMPORT_NOT_COMPLETE	
EFLI_LUN_ONLINE_VERIFY_FAIL	
E_SAN_NOT_READY	

lun-import-verify-stop

[top]

Stop the verify for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_VERIFY_NOT_IN_PROGRESS	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-initiator-list-map-info

[top]

List all the LUNs mapped to an initiator

Input Name	Range	Type	Description
initiator		string	initiator to check

Output Name	Range	Type	Description
lun-maps		lun-map-info[] optional	List of lun maps for the given initiator.

Errno	Description
EINVAL	
EAPIERROR	

Vfiler-enabled
Yes

lun-initiator-logged-in

[top]

Determine if an initiator is logged in via FCP or iSCSI.

Input Name	Range	Type	Description
initiator		string	Name of FCP or iSCSI initiator to check.

Output Name	Range	Type	Description
is-logged-in		boolean	true if initiator is logged into the filer, false otherwise.

Errno	Description
EINVAL	
EAPIERROR	

Vfiler-enabled
Yes

lun-list-info

[top]

Get the status (size, online/offline state, shared state, comment string, serial number, LUN mapping) of the given LUN, or all LUNs.

Input Name	Range	Type	Description
get-clone-backing-snapshot		boolean optional	If specified, the name of the backing snapshot for a LUN clone is returned. The default value is false.
path		string optional	Path of LUN. If specified, only the information of that LUN is returned. This option can only be used if volume-name is not used.
volume-name		string optional	Name of a volume. If specified, only the information of the LUNs in that volume is returned. This option can only be used if path is not specified.

Output Name	Range	Type	Description
are-vols-busy		boolean	Indicates whether any volumes are moving. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false.
are-vols-onlining		boolean	Indicates whether any volumes are still in the process of onlining. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false.
luns		lun-info[]	Information of a list of LUNs.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
ENOSYS	
EONTAPI_ENOMEM	
EONTAPI_ESTALE	
EVDISK_ERROR_VOLUMES_ONLINING	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-map

[top]

Maps the LUN to all the initiators in the specified initiator group.

Input Name	Range	Type	Description

additional-reporting-node		node-name optional	Report the newly created LUN map from the specified node and its HA partner in addition to the current owning nodes of the LUN. This field is available in Data ONTAP 8.3 and later.
force		boolean optional	Forcibly map the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored.
initiator-group		string	Initiator group to map to the given LUN.
lun-id	**[0..4095]**	integer optional	If the lun-id is not specified, the smallest number that can be used for the various initiators in the group is automatically picked.
path		string	Path of the LUN.

Output Name	Range	Type	Description
lun-id-assigned	**[0..4095]**	integer	LUN ID assigned for this map. If lun-id is not supplied, this will be an auto-assigned LUN ID, otherwise it will be the same as the supplied LUN ID if map is successful.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOSPCAGGR	
EONTAPI_EROFS	
EVDISK_ERROR_INITGROUP_HAS_VDISK	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVDISK_ERROR_PARTNER_HAS_LUN	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_ISCSI_IGROUP	
EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_FCP_IGROUP	
EVDISK_ERROR_LUN_HAS_ISCSI_IGROUP	
EVDISK_ERROR_LUN_HAS_FCP_IGROUP	
EVDISK_ERROR_LUN_HAS_ALUA_CONFLICTS	
EVDISK_ERROR_TOO_MANY_LUNS	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
E_SAN_MISSING_REQUIRED_LIFS	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-map-add-reporting-nodes

[top]

Add nodes to the list reporting the LUN map. If no specific action is provided, adds all the nodes in the current failover group for the LUN.

Input Name	Range	Type	Description
all		boolean optional	When specified and true, report the LUN from all eligible nodes.

destination-aggregate		string optional	The name of an aggregate. When specified, adds the nodes appropriate for the aggregate in preparation for a mobility event that will change the LUN's containing aggregate to the value specified.
destination-volume		string optional	The name of a volume. When specified, addds teh nodes appropriate for the volume in preparation for a mobility event that will change the LUN's containing volume to the value specified.
igroup		string	The initiator group the LUN is mapped to.
nodes		filer-id[] optional	The name of one or more nodes. When specified, add the specific nodes and HA partners to the map.
path		string	The path of the LUN.

Errno	Description
EAGGRDOESNOTEXIST	
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_EDISABLED	
EVDISK_ERROR_NO_SUCH_LUNMAP	
EVOLUMEDOESNOTEXIST	
E_SAN_NOT_READY	

lun-map-get-iter

[top]

Iterate over a list of LUN map detail objects.

Input Name	Range	Type	Description
desired-attributes		lun-map-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-map-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN map detail object. All LUN map detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-map-info[] optional	The list of attributes of LUN map detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more LUN map detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

volume-errors		volume-error[] optional	List of errors encountered while retrieving LUN inventory

Errno	Description
EINTERNALERROR	

lun-map-list-info

[top]

Returns a list of initiator groups and their members (the initiators) mapped to the given LUN.

Input Name	Range	Type	Description
path		string	LUN for which the initiator group list is requested.

Output Name	Range	Type	Description
initiator-groups		initiator-group-info[] optional	List of initiator groups that are mapped to the given LUN.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-map-remove-reporting-nodes

[top]

Remove nodes from the list reporting the LUN map. If no specific action is provided, remove all nodes not in the current failover group for the LUN.

Input Name	Range	Type	Description
igroup		string	The initiator group the LUN is mapped to.
nodes		filer-id[] optional	The name of one or more nodes. When specified, remove the specific nodes and HA partners from the map.
path		string	The path of the LUN.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_EDISABLED	
EVDISK_ERROR_NO_SUCH_LUNMAP	
E_SAN_NOT_READY	

lun-move

[top]

Move (rename) a LUN.

Input Name	Range	Type	Description
new-path		string	New path of the LUN being moved to.
path		string	Path of the LUN to be moved.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EISDIR	
EONTAPI_EEXIST	
EOFFLINE	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NOT_QTREE_ROOT	
EVDISK_ERROR_NOT_IN_SAME_VOLUME	
EVDISK_ERROR_VDISK_EXISTS	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IN_SYNC_DR_CG	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-move-cancel

[top]

Cancels an ongoing LUN move operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, allow the current move operation to complete and then move it back using the lun-move-start API.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	

EOBJECTNOTFOUND	
EOD_CANT_CANCEL_OPERATION	

lun-move-get-iter

[top]

Iterate over a list of LUN move job detail objects.

Input Name	Range	Type	Description
desired-attributes		lun-move-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-move-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN move job detail object. All LUN move job detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-move-info[] optional	The list of attributes of LUN move job detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more LUN move job detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-move-modify

[top]

Modifies the maximum throughput of an ongoing move operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.
			Specifies the maximum amount of data, in bytes, that can be transferred

max-throughput		size	per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-move-pause

[top]

Pauses an ongoing LUN move operation. Use the lun-move-resume API to resume the move operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-move-resume

[top]

Resumes a paused LUN move operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-move-start

[top]

Starts a LUN move operation to move one or more LUNs from one volume to another within a Vserver. The destination volume can be located on the same node as the source volume or on a different node. NOTE: LUNs created from files cannot be moved.

Input Name	Range	Type	Description
max-throughput	**[0..2^63-1]**	integer optional	Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.
paths		lun-path-pair[]	Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be moved. All the source LUNs must be on the same volume. All the LUNs must be moved into a single volume.
promote-late		boolean optional	Specifies that the destination needs to be promoted late. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN move operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN move job will not block snapshots of the volume containing the new LUN.
reference-path		string optional	Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being moved will be transferred as a difference from the reference LUN. This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified.

Output Name	Range	Type	Description
job-uuid		uuid	Specifies universally unique ID (UUID) for the LUN move job.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EOD_INVALID_ECV	
EOD_DEST_LUN_EXISTS	
EOD_DEST_LUNS_NOT_ON_SAME_VOLUME	
EOD_MOVE_DUP_DEST_PATH	
EOD_DEST_IS_FLEXCACHE	
EQTREE_DOES_NOT_EXIST	
EOP_DISALLOWED_VSERVER_ROOT	
EOD_SRC_LUN_NOT_FOUND	
EOD_SRC_LUNS_NOT_ON_SAME_VOLUME	
EOD_SRC_LUN_IS_PE	
EOD_LUN_IN_NVFAILED_STATE	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EOD_LUN_MAX_COUNT_VIOLATION	

EOD_REF_PATH_NOT_IN_SOURCE_PATHS	
E_SAN_MISSING_REQUIRED_LIFS	
E_SAN_NOT_READY	
EOD_MOVE_DEST_IS_SNAPSHOT	
EOD_SRC_IS_DP	
EOD_SRC_IS_SNAPSHOT	
EOD_DEST_IN_CFT_PRECOMMIT	
E_SAN_NOT_READY	

lun-offline

[top]

Disables block-protocol accesses to the LUN. Mappings, if any, configured for the lun are not altered. Note that unless explicitly offlined, a lun is online.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_ENABLED	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EVDISK_ERROR_VOLUME_TRANSITIONING	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-online

[top]

Re-enables block-protocol accesses to the lun.

Input Name	Range	Type	Description
force		boolean optional	Forcibly online the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored.
path		string	Path of the LUN.

Errno	Description

EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVDISK_ERROR_PARTNER_HAS_LUN	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_LUN_HAS_NO_SERIAL_NO	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EVDISK_ERROR_VOLUME_TRANSITIONING	
EFLI_VERIFY_LUN_ONLINE_FAIL	
EFLI_CREATE_RESYNC_PENDING	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-os-type-list

[top]

Displays the supported values and descriptions for lun-os-type.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[]	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

lun-port-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP for a given initiator name. Initiator name can be FCP portname in case of FCP or iSCSI node name for iSCSI.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.
portname		string	Initiator FCP portname or iSCSI node name.

Output Name	Range	Type	Description
is-reservation-held		boolean	'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise.

Errno	Description
EINVALIDINPUTERROR	

EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-reset-stats

[top]

Resets (zeroes) block-protocol access statistics for LUN(s).

Input Name	Range	Type	Description
path		string optional	Path of the LUN. If path is specified, the stats of that LUN will be reset. If path is not specified, stats of all LUNs are reset.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-resize

[top]

Changes the size of the LUN. Note that client-side operations may be needed to ensure that client software recognizes the changed size. For Data ONTAP Cluster-Mode 8.3 and later, LUN resize is not allowed while the LUN is in import relationship with a Foreign LUN.

Input Name	Range	Type	Description
force		boolean optional	Forcibly reduce the size. This is required for reducing the size of the LUN to avoid accidentally reducing the LUN size.
path		string	Path of the LUN.
size	**[0..2^63-1]**	integer	New size for the LUN.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	Actual new size. This may be different from the specified size due to the requested size not fitting on a cylinder boundary.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_SIZE_TOO_LARGE	
EVDISK_ERROR_RESIZE_TOO_LARGE	

EONTAPI_NOSPC	
EVDISK_ERROR_MUST_SPECIFY_F_FLAG	
EVDISK_ERROR_SIZE_TOO_SMALL	
EVDISK_ERROR_SIZE_UNCHANGED	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EVDISK_ERROR_VOLUME_TRANSITIONING	
EVDISK_SYNC_CAPB_MISMATCH	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-restore-status

[top]

Get state of LUN restore.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
is-running		boolean	'true' if file restore is currently running for this vdisk, 'false' otherwise.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-set-attribute

[top]

Set a named attribute for a given LUN. Attributes are arbitrary key/value pairs for application-defined use.

Input Name	Range	Type	Description
			Application-defined attribute to set. In order to prevent conflicts between separate applications, it is recommended that applications prefix attribute

name		string	names with their registered Internet domain name reversed component by component, and an application identifier. For example: "com.example.widgetapp.attribute". The following attributes are reserved by the system and may not be set: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to set a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names.
path		string	Path of the LUN.
value		string	Value to set the attribute to. In Data ONTAP Cluster-mode, the combined size of "name" and "value" must not exceed 4092 bytes.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EONTAPI_EPERM	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_ATTR_TOO_BIG	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EONTAPI_EROFS	

Vfiler-enabled
Yes

lun-set-comment

[top]

Set the optional descriptive comment for a LUN.

Input Name	Range	Type	Description
comment		string	Comment to set for given LUN.
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_LUN_IS_QUIESCED	

Vfiler-enabled
Yes

lun-set-device-id

[top]

Set a SCSI peripheral device identifying information value on a LUN. In Data ONTAP 7-Mode, the value set will be returned in response to the vendor unique SCSI command GET DEV ID. In Data ONTAP Cluster-Mode, the value set will be returned in response to the SCSI command REPORT IDENTIFYING INFORMATION for the appropriate INFORMATION TYPE:

- 0000000b - Peripheral Device Identifying Information, a binary string 1 to 64 bytes long. In addition, if the Peripheral Device Identifying Information is between 00000001h (1d) and 0000270Fh (9999d), it will be returned in response to the vendor unique SCSI command GET DEV ID.
- 0000010b - Peripheral Device Text Identifying Information, a UTF-8 string 1 to 255 bytes long.

Either or both peripheral device identifying information values may be set or cleared independently.

Input Name	Range	Type	Description
device-id		string	SCSI Peripheral Device Identifying Information. In Data ONTAP 7-Mode or if device-id-type is "legacy", the value must be an integer in the range [1..9999]. If device-id-type is "binary", the value must be a 2 to 64 byte value encoded as a hexadecimal string, for example "0000270F". If device-id-type is "text", the value is a free-form UTF-8 string between 1 and 255 bytes in length.
device-id-type		string optional	Indicate which peripheral device identifying information value to change. Possible values: • "legacy" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) appropriate for the the vendor unique SCSI command GET DEV ID and in the format compatible with Data ONTAP 7-Mode, • "binary" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). This format allows setting all 64 bytes of the identifying information, • "text" - Set the Peripheral Device Text Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). The default value is "legacy".
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
VDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVDISK_ERROR_INVALID_DEVICE_ID	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
E_SAN_NOT_READY	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled

Yes

lun-set-qos-policy-group

[top]

Input Name	Range	Type	Description
path		lun-path	Path of the LUN
qos-adaptive-policy-group		string optional	QoS Adaptive Policy Group for the LUN. Setting this value to 'none' removes the LUN from an adaptive policy group.
qos-policy-group		string optional	QoS Policy Group for the LUN. Setting this value to 'none' removes the lun from a policy group.

Errno	Description
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_LUN_CREATE_MODIFY	
E_QOS_LUN_PG_REMOVE	

lun-set-select-attribute

[top]

Set the select attribute for the specified LUN. The select attribute is used by multi-pathing software to discriminate between LUNs when mirrored or cloned copies of a vdisk are mapped to the same host.

Input Name	Range	Type	Description
path		string	Path of the LUN.
select-value		string	Sets the select attribute for the lun. Possible values: • "active" - this is an active lun, • "copy" - this is a clone or copy of an active lun, • "mirror" - this is a mirror of an active lun.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-set-serial-number

[top]

Set the serial number for the specified LUN. The lun must first be made offline before changing the serial number. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . The caller must ensure the provided serial number is globally unique and not assigned to any other LUN on this or any other ONTAP cluster.

Input Name	Range	Type	Description
path		string	Path of the LUN.
serial-number		string	Serial number for the LUN. The caller must ensure the serial number is globally unique.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled
Yes

lun-set-share

[top]

Enables file system protocol-based access to a lun. By default, all accesses are disallowed. Note that file permissions and ACL entries still apply.

Input Name	Range	Type	Description
path		string	Path of the LUN.
share-type		string	Possible values: all, none, read, write

Errno	Description
EINVALIDINPUTERROR	
VDISK_ERROR_NO_SUCH_VDISK	
VDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-set-space-alloc

[top]

Modify the attributes of lun object.

Input Name	Range	Type	Description
enable		boolean	LUN space allocation setting
path		lun-path	Path of the LUN

Errno	Description
E_SAN_NOT_READY	

lun-set-space-reservation-info

[top]

Sets the space reservation settings for the named LUN.

Input Name	Range	Type	Description
enable		boolean	Enable or disable space reservation on this LUN.
path		string	Path to the LUN for which the space reservations need to be set.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ESETSPCRESERROR	
EONTAPI_ENOSPC	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EONTAPI_EROFS	

Vfiler-enabled
Yes

lun-snap-usage-list-info

[top]

Lists all LUNs backed by data in the specified snapshot. It also lists the corresponding snapshots in

which these LUNs exist.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot.
volume		string	Name of the volume.

Output Name	Range	Type	Description
lun-snap-usage-luns		lun-snap-usage-lun-info[]	List of LUNs backed by data in the specified snapshot.

Errno	Description
EINVALIDINPUTERROR	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_NO_SUCH_SNAPSHOT	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-start

[top]

Starts block-protocol accesses to the lun.

Input Name	Range	Type	Description
path		string	Path of the LUN. The path should start with '/vol/' (for example, "/vol/vol0/lun1").

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_STOPPED	

Vfiler-enabled
Yes

lun-stats-get-iter

[top]

Iterate over a list of lun objects.

Input Name	Range	Type	Description
		lun-	Specify the attributes that should be returned. If not present, all

desired-attributes		stats-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-stats-info[] optional	The list of attributes of lun objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lun objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-stats-list-info

[top]

Get block-protocol access statistics (in bytes) for LUN(s).

Input Name	Range	Type	Description
path		string optional	Path of the LUN. If path is specified, only the stats of that LUN is returned. If path is not specified, stats of all LUNs are returned.

Output Name	Range	Type	Description
lun-stats		lun-stats-info[]	List of LUN stats.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

[top]

lun-unmap

Reverses the effect of lun-map on the specified LUN for the specified group. For Data ONTAP Cluster-Mode 8.3 and later, if LUN is in import relationship, the last LUN map can not be deleted.

Input Name	Range	Type	Description
initiator-group		string	Initiator group to unmap from.
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVDISK_ERROR_NO_SUCH_EXPORT	
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EFLI_LUN_BOUND_TO_FLI_ERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-unset-attribute

[top]

Clear a named attribute for a given LUN.

Input Name	Range	Type	Description
name		string	Name of attribute to unset. The following attributes are reserved by the system and may not be unset: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to unset a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names.
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EONTAPI_EPERM	
EVOLUMEBUSY	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
E_SAN_NOT_READY	

EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled
Yes

lun-unset-device-id

[top]

Remove a SCSI peripheral device identifying information value from a LUN.

Input Name	Range	Type	Description
device-id-type		string optional	Indicate which peripheral device identifying information to remove. Possible values: • "binary" - Remove the Peripheral Device Identifying Information returned in response to the SCSI commands REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) and GET DEV ID, • "text" - Remove the Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). The default value is "binary".
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
VDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
E_SAN_NOT_READY	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled
Yes

Element definition: **alua-setting-mismatch-initiator-group**

[top]

Information about an initiator group that has an ALUA (Asymmetric Logical Unit Access) setting mismatch on local and partner filers.

Name	Range	Type	Description
initiator-group-name		string	name of the initiator group.
local-alua-is-		boolean	true if ALUA (Asymmetric Logical Unit Access) is enabled for

enabled			initiator-group-name on the local filer.
partner-alua-is-enabled		boolean	true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name

Element definition: **alua-setting-mismatch-initiator-info**

[top]

Information about an initiator that is a member of igroups that have an alua setting mismatch. Also contains partner alua mismatch issues.

Name	Range	Type	Description
alua-is-enabled		boolean	true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name.
initiator-group-name		string	name of the initiator group name that the initiator belongs to.
initiator-name		string	name of the initiator.

Element definition: **clone-status-info**

[top]

Status of a cloning.

Name	Range	Type	Description
blocks-completed		integer	Number of blocks completed.
blocks-total		integer	Total blocks to clone. The percentage complete is (completed * 100) / total
path		string	LUN path being cloned.

Element definition: **conflict-wwpn**

[top]

WWPN that has the conflict.

[none]

Element definition: **conflicting-initiator-info**

[top]

Fibre channel initiator that belongs to igroups on the local filer which have a different OS type than the initiator groups that this initiator belongs to on the partner filer. This conflict can produce unexpected host behavior and must be fixed.

Name	Range	Type	Description
initiator-local-os-type		initiator-group-os-type	OS type of the initiator on the local filer

initiator-name		string	Fibre channel initiator node name that has a different OS type on the local filer than the partner filer.
initiator-partner-os-type		initiator-group-os-type	OS type of the initiator on the partner filer

Element definition: **conflicting-luns-list**

[top]

List of the conflicting LUNs.

Name	Range	Type	Description
conflict-lun-path		string	Path of the lun that has the conflict. The format is: /vol// or /vol///

Element definition: **conflicting-map-info**

[top]

lun mapping conflict.

Name	Range	Type	Description
initiator-name		string	Fibre channel initiator node name that has a lun mapped from both filers in the cluster using the same LUN-id.
lun-id		integer	lun-id used in mappings to the initiator from both filers in the cluster.

Element definition: **fcp-down-hba-info**

[top]

Information about a down FCP HBA

Name	Range	Type	Description
adapter		string	Which FC adapter.
state		string	Description of HBAs state. Possible values: STARTUP UNINITIALIZED INITIALIZING FIRMWARE LINK NOT CONNECTED WAITING FOR LINK UP ONLINE LINK DISCONNECTED RESETTING OFFLINE OFFLINED BY USER/SYSTEM Unknown state

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **initiator-group-info**

[top]

Information about an initiator group.

Name	Range	Type	Description
initiator-group-alua-enabled		boolean	Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group.
initiator-group-delete-on-unmap		boolean optional	Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later.
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
initiator-group-portset-name		string optional	Name of the portset that is bound to the initiator group, if any.
initiator-group-report-scsi-name-enabled		boolean optional	Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later.
initiator-group-throttle-borrow		boolean	Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved.
initiator-group-throttle-reserve		integer	Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage.
initiator-group-type		string	Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed".
initiator-group-use-partner		boolean optional	Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'.
initiator-group-uuid		string optional	This value is Universally-unique identifier (UUID) of this initiator group. The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used. This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs.

			Here is an example of an actual UUID: 35d6ca90-c759-11df-8b6d-00a098132c6c
initiator-group-vsa-enabled		boolean	Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled.
initiators		initiator-info[] optional	List of initiators belonging to this group.
lun-id	**[0..4095]**	integer optional	LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api.
vserver		string optional	Name of the vserver hosting this initiator group

Element definition: **invalid-cfmode-setting-info**

[top]

local and partner cfmode settings

Name	Range	Type	Description
local-fcp-cfmode		string	cfmode setting of the local filer Possible values: dual_fabric, mixed, partner, standby, single_image
partner-fcp-cfmode		string	cfmode setting of the partner filer Possible values: dual_fabric, mixed, partner, standby, single_image

Element definition: **invalid-nodename-setting-info**

[top]

Information about different FCP node names

Name	Range	Type	Description
local-fcp-node-name		string	FCP node name for the local filer
partner-fcp-node-name		string	FCP node name for the partner filer

Element definition: **invalid-ostype-cfmode-setting-info**

[top]

Information about an invalid initiator group OS type and cfmode combination

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group

Element definition: **invalid-use-partner-cfmode-setting-info**

[top]

Information about an invalid initiator group use_partner and cfmode

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
is-use-partner-enabled		boolean	If true this initiator group's members are allowed to use the partner port.

Element definition: **invalid-use-partner-ostype-setting-info**

[top]

Information about an invalid initiator group OS type and use_partner combination

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
is-use-partner-enabled		boolean	If true this initiator group's members are allowed to use the partner port.

Element definition: **invalid-vsa-setting-info**

[top]

Information about an initiator group with an invalid Volume Set Addressing (VSA) setting for its OS type. Only 'hpux' initiator groups should have VSA enabled. All other initiator groups should have it disabled. Incorrect settings can cause hosts to not be able to access some or all of their LUNs.

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
is-vsa-enabled		boolean	If true, members of this initiator group will use VSA on the filer.

Element definition: **lun-align-info**

[top]

LUN alignment Info of a LUN When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alignment		alignment-state optional	Alignment of the LUN. Possible values: aligned, misaligned, partial-writes, indeterminate. Attributes: non-creatable, non-modifiable Possible values: • "aligned" - All or most of the IO to the LUN is aligned to the underlying file, • "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file, • "partial_writes" - A significant amount of IO to the LUN is partial, • "indeterminate" - There is not enough IO to determine the LUN's alignment state
multiprotocol-type		lun-os-type optional	The ostype for the LUN. Caller should specify a non-default ostype Attributes: non-creatable, non-modifiable Possible values: • "vmware" - The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs)., • "hyper_v" - The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks)., • "windows_2008" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later., • "windows_gpt" - The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT)., • "windows" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table., • "linux" - The LUN will be used to store a Linux filesystem with no partition table., • "xen" - The LUN will be used to provide storage for XenServer., • "solaris" - The LUN will be used to store a Solaris filesystem in a single slice partition., • "solaris_efi" - The LUN will be used to store a Solaris filesystem with an EFI partition table., • "hpux" - The LUN will be used to store an HP-UX filesystem., • "aix" - The LUN will be used to store an AIX filesystem., • "netware" - The LUN will be used to store a Netware filesystem., • "openvms" - The LUN will be used to store an OpenVMS filesystem., • "image" - The default type indicating no assumptions will be made about the data stored in the LUN.
partition-count	**[0..2^32-1]**	integer optional	Number of partitions on the LUN. Attributes: non-creatable, non-modifiable
partition-		partition-scheme	Partition scheme on the LUN. Possible values: mbr and gpt Attributes: non-creatable, non-modifiable Possible values: • "mbr" - Master Boot Record Partition Table Scheme, • "gpt" - GUID Partition Table Scheme,

scheme		optional	• "unknown" - Unrecognized partition scheme or an unformatted LUN, • "sun_vtoc" - Sun VTOC Partition Table Scheme, • "aix" - IBM AIX Disk Label
partition-table		partition-list-entry[] optional	Partition entries on the LUN.
path		lun-path optional	Path of the LUN Attributes: key, non-creatable, non-modifiable
read-alignment-histogram		read-histogram-entry[] optional	Histogram of read operations of size 4k in percentage value.
read-partial-blocks	**[0..2^32-1]**	integer optional	Total number of read operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver hosting the LUN Attributes: key, non-creatable, non-modifiable
write-alignment-histogram		write-histogram-entry[] optional	Histogram of write operations of size 4k in percentage value.
write-partial-blocks	**[0..2^32-1]**	integer optional	Total number of write operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable

Element definition: **lun-attribute-info**

[top]

LUN attribute name / value pair

Name	Range	Type	Description
name		string	Name of the attribute.
value		string	Value of the attribute.

Element definition: **lun-clone-lists-info**

[top]

Details of the LUN clone in the specified snapshot.

Name	Range	Type	Description
path		string	Path of the LUN clone.

Element definition: **lun-copy-info**

[top]

Information about a LUN copy job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cutover-time		time-interval optional	Specifies time, in seconds, between the start of\" the LUN copy job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable
destination-path		lun-path optional	Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the Vserver that will host the new LUN. Attributes: non-creatable, non-modifiable
elapsed-time		time-interval optional	Specifies elapsed time, in seconds, since the start of the LUN copy job. Attributes: non-creatable, non-modifiable
is-destination-ready		boolean optional	Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable
is-promoted-early		boolean optional	Specifies if the destination LUN has been promoted early. Attributes: non-creatable, non-modifiable
is-snapshot-fenced		boolean optional	Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable
job-status		sfod-scanner-status optional	Specifies the current status of the LUN copy transfer. Attributes: non-creatable, non-modifiable Possible values: • "preparing" - Preparing, • "allocation_map" - Allocating, • "data" - Moving Data, • "destroying" - Destroying, • "paused_manual" - Manually Paused, • "paused_error" - Paused by Error, • "complete" - Complete, • "destroyed" - Destroyed, • "terminated_manual" - Manually Terminated
job-uuid		uuid optional	Specifies the universal unique ID (UUID) of the job that started this copy operation. Attributes: key, non-creatable, non-modifiable
last-failure-reason		string optional	Specifies the most recent error message from the LUN copy job. Attributes: non-creatable, non-modifiable
lun-index	**[0..2^32-1]**	integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable
max-throughput		size optional	Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable
progress-percent	**[0..100]**	integer optional	Specifies the amount of data, as a percentage of total data, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable
scanner-progress		size optional	Specifies the amount of data, in bytes, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable

scanner-total		size optional	Specifies the total amount of data, in bytes, that will be copied over to the new LUN. Attributes: non-creatable, non-modifiable
source-path		lun-path optional	Specifies the full path to the LUN to be copied, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable
source-snapshot-instance-uuid		string optional	Specifies the universal unique ID (UUID) of the physical data layout of the source Snapshot volume. This value corresponds to snapshot-instance-uuid element of the snapshot-info structure. If the value is not specified it indicates that the LUN is not being copied from a Snapshot volume. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the Vserver hosting the LUN to be copied. Attributes: non-creatable, non-modifiable

Element definition: **lun-import-info**

[top]

Information of a Foreign LUN Import relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-status		fli-admin-state-enum optional	Administrative status of the import operation Attributes: non-creatable, non-modifiable Possible values: • "stopped" , • "started" , • "paused"
compared-blocks	**[0..2^64-1]**	integer optional	Number of compared blocks. This element will be returned only when import verification is in progress. Attributes: non-creatable, non-modifiable
current-throughput		size optional	Current Throughput (per sec) Attributes: non-creatable, non-modifiable
estimated-remaining-duration		timeticks optional	Estimated Remaining Duration Attributes: non-creatable, non-modifiable
failure-reason		string optional	Failure Reason Attributes: non-creatable, non-modifiable
foreign-disk		string optional	Foreign Disk Serial Number Attributes: key, required-for-create, non-modifiable
import-current-node		string optional	Import Current Node. The current node where import is running and where foreign disk I/Os are serviced. During takeover or giveback the import-current-node can change. Attributes: non-creatable, non-modifiable
import-home-node		string optional	Import Home Node Attributes: non-creatable, non-modifiable
imported-blocks	**[0..2^64-1]**	integer optional	Blocks Imported Attributes: non-creatable, non-modifiable

max-throughput-limit		size optional	Maximum Throughput Limit (per sec) Attributes: non-creatable, non-modifiable
operation-in-progress		fli-operation-enum optional	Current operation in progress Attributes: non-creatable, non-modifiable Possible values: • "import" , • "verify"
operational-status		fli-operational-state-enum optional	Operational status of the import operation Attributes: non-creatable, non-modifiable Possible values: • "in_progress" , • "failed" , • "completed" , • "stopped" , • "paused"
path		lun-path optional	Path of the LUN Attributes: required-for-create, non-modifiable
percent-complete	**[0..2^32-1]**	integer optional	Percent Complete Attributes: non-creatable, non-modifiable
qos-policy-group		string optional	QoS Policy Group Attributes: non-creatable, non-modifiable
total-blocks	**[0..2^64-1]**	integer optional	Total Blocks Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver containing the LUN Attributes: key, non-creatable, non-modifiable

Element definition: **lun-info**

[top]

Information of a LUN.

Name	Range	Type	Description
alignment		string optional	Alignment of the LUN. Possible values: "aligned", "misaligned", "partial_writes" or "indeterminate".
application		string optional	The name of the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application.
application-uuid		string optional	The unique identifier for the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application.
backing-snapshot		string optional	Path to the backing snapshot file for a LUN, if there is one. Only returned if it has one. Note: This element is not returned for LUNs which are in snapshots.
block-size	**[0..2^31-1]**	integer optional	Disk block size of the LUN in bytes. This field is unavailable while the LUN is fenced for a restore operation.
class		string optional	The class of the LUN. Possible values: • "regular" - The LUN is intended for normal blocks access, • "protocol_endpoint" - The LUN is a VMware vvol protocol endpoint, • "vvol" - The LUN is a VMware vvol data LUN.

clone-backing-snapshot		string optional	
comment		string optional	User-specified comment for the LUN. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation.
creation-timestamp	**[0..2^31-1]**	integer optional	The time this LUN was created, in seconds since January 1, 1970. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation.
device-binary-id		string optional	SCSI Peripheral Device Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). Value is encoded as a hexadecimal string, representing 1 to 64 bytes. Only present if a Peripheral Device Identifying Information value has been set on the LUN.
device-id	**[1..9999]**	integer optional	SCSI Peripheral Device Identifying Information returned in response to the vendor unique SCSI command GET DEV ID. Only present if a Peripheral Device Identifying Information value appropriate for GET DEV ID has been set on the LUN.
device-text-id		string optional	SCSI Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). Value is a free-form UTF-8 string between 1 and 255 bytes in length. Only present if a Peripheral Device Text Identifying Information value has been set on the LUN.
is-clone		boolean optional	"true" if the lun is a clone "false" otherwise.
is-clone-autodelete-enabled		boolean optional	"true" if the lun clone is allowed to be deleted by autodelete in try/disrupt mode. autodelete will be allowed to delete the lun clone in try/disrupt mode if configured. "false" otherwise. The lun clone will not be deleted by autodelete in try/disrupt mode if configured.
is-inconsistent-import		boolean optional	"true" if the lun contains a partial import of a foreign disk, "false" otherwise.
is-restore-inaccessible		boolean optional	If true, the LUN is fenced for I/O and management operations due to an ongoing restore operation. If false, the LUN is available for normal operations.
is-space-alloc-enabled		boolean optional	Whether or not the LUN has space allocation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation. The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard.
is-space-reservation-enabled		boolean optional	Whether or not the LUN has space reservation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation
mapped		boolean optional	Whether or not the LUN is mapped to any initiators. "true" if mapped, "false" otherwise. This field is not applicable to LUNs where the class attribute is set to 'vvol'.
multiprotocol-type		lun-os-type optional	OS type of the LUN This field is unavailable while the LUN is fenced for a restore operation.
node		node-name optional	Node hosting the LUN. This field is available in Data ONTAP 8.3 and later.
online		boolean	"true" if the LUN is online, "false" if the LUN is offline. In Data ONTAP 8.3 and later, the 'state' field may be used to distinguish between specific access states.

path		string	Path of the LUN.
prefix-size	**[0..2^63-1]**	integer optional	Size of the prefix stream for this LUN in bytes. This is either the default value for the OS type of the LUN or value specified in lun-create-by-size API. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later.
qos-adaptive-policy-group		string optional	QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later.
qos-policy-group		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. This field is only present if the LUN is assigned to a QoS policy This field is available in Data ONTAP 8.2 and later.
qtree		string	Name of the qtree containing the LUN.
read-only		boolean optional	"true" if the LUN is read only, "false" if read/write. This field is unavailable while the LUN is fenced for a restore operation.
serial-7-mode		string optional	The serial number of the LUN used by Data ONTAP 7-Mode prior to transitioning the LUN. This field is available in Data ONTAP 8.3 and later.
serial-number		string optional	Serial number of the LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . This field is unavailable when the LUN is in a snapshot.
share-state		string	Share state of the LUN. Possible values: "all", "none", read", "unknown", "write". In the very rare case that the share state can not be determined, "unknown" is returned.
size	**[0..2^63-1]**	integer optional	Size of this LUN in bytes in the active FS. This field is unavailable while the LUN is fenced for a restore operation.
size-used	**[0..2^63-1]**	integer optional	Number of bytes used by this LUN. This field is unavailable while the LUN is fenced for a restore operation.
staging		boolean	"true" if the LUN is a temporary staging LUN, "false" otherwise.
state		string optional	The access state of the LUN. Possible values: • "online" - LUN is online, • "offline" - LUN is administratively offline or a more detailed offline reason is not available, • "foreign_lun_error" - LUN has been automatically taken offline due to a media error on the associated foreign LUN, • "nvfail" - LUN has been automatically taken offline due to an NVRAM failure, • "space_error" - LUN has been automatically taken offline due to insufficient space. This field is available in Data ONTAP 8.3 and later.
suffix-size	**[0..2^63-1]**	integer optional	Size of the suffix stream for this LUN in bytes. This value is determined by the OS type of the LUN at creation time. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later.
uuid		string optional	Universal unique identifier (UUID) for the LUN. This field is unavailable when the LUN is in a snapshot.
volume		string	Name of the volume containing the LUN.
vserver		string optional	Vserver containing the LUN.

Element definition: **lun-map-info**

[top]

Information about a lun mapping

Name	Range	Type	Description
initiator-group		string	Initiator group used to map the lun to the requested initiator.
initiator-group-uuid		string	The Universally-unique identifier (UUID) of the initiator group.
lun-id	**[0..4095]**	integer	Logical Unit Number which the lun is mapped to for the requested initiator.
lun-uuid		string	The Universally-unique identifier (UUID) of the LUN.
node		node-name	The owning node of the LUN.
path		string	Path of the LUN which is mapped to the requested initiator.
reporting-nodes		node-name[] optional	The list of nodes reporting the LUN map to SCSI initiators. If not provided, the map is reported on all applicable LIFs on all nodes.
vserver		string optional	Vserver containing the initiator group

Element definition: **lun-move-info**

[top]

LUN Move Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cutover-time		time-interval optional	Specifies time, in seconds, between the start of\" the LUN move job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable
destination-path		lun-path optional	Specifies the full path to the new LUN, of the form /vol//[]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable
elapsed-time		time-interval optional	Specifies elapsed time, in seconds, since the start of the LUN move job. Attributes: non-creatable, non-modifiable
is-destination-ready		boolean optional	Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable
is-promoted-		boolean	Specifies if the destination LUN has been promoted late. Attributes:

late		optional	non-creatable, non-modifiable
is-snapshot-fenced		boolean optional	Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable
job-status		sfod-scanner-status optional	Specifies the current status of the LUN move job. Attributes: non-creatable, non-modifiable Possible values: • "preparing" - Preparing, • "allocation_map" - Allocating, • "data" - Moving Data, • "destroying" - Destroying, • "paused_manual" - Manually Paused, • "paused_error" - Paused by Error, • "complete" - Complete, • "destroyed" - Destroyed, • "terminated_manual" - Manually Terminated
job-uuid		uuid optional	Specifies the universal unique ID (UUID) of the job that started this move operation. Attributes: key, non-creatable, non-modifiable
last-failure-reason		string optional	Specifies the most recent error message from the LUN move job. Attributes: non-creatable, non-modifiable
lun-index	**[0..2^32-1]**	integer optional	Specifies ann additional unique element identifying one LUN among many that could be possibly move as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable
max-throughput		size optional	Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable
progress-percent	**[0..100]**	integer optional	Specifies the amount of data, as a percentage of total data, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable
scanner-progress		size optional	Specifies the amount of data, in bytes, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable
scanner-total		size optional	Specifies the total amount of data, in bytes, that will be moved over to the new LUN. Attributes: non-creatable, non-modifiable
source-path		lun-path optional	Specifies the full path to the LUN to be moved, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the name of the Vserver containing the source and destination volumes. Attributes: non-creatable, non-modifiable

Element definition: **lun-os-type**

[top]

The image type of the lun. This value determines the proper alignment settings for the desired host filesystem layout. Possible values:

- "aix" The LUN will be used to store an AIX filesystem,
- "hpux" The LUN will be used to store an HP-UX filesystem,
- "hyper_v" The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks),
- "image" The default type indicating no assumptions will be made about the data stored in the LUN,
- "linux" The LUN will be used to store a Linux filesystem with no partition table,
- "netware" The LUN will be used to store a Netware filesystem,
- "openvms" The LUN will be used to store an OpenVMS filesystem,

- "solaris" The LUN will be used to store a Solaris filesystem in a single slice partition,
- "solaris_efi" The LUN will be used to store a Solaris filesystem with an EFI partition table,
- "vmware" The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs),
- "windows" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table.
- "windows_2008" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later,
- "windows_gpt" The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT),
- "xen" The LUN will be used to provide storage for XenServer.

[none]

Element definition: **lun-path**

[top]

LUN Path

[none]

Element definition: **lun-path-pair**

[top]

A pair of source and destination LUN paths

Name	Range	Type	Description
destination-path		string	Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun.
source-path		string	Specifies the full path to the source LUN, of the form /vol/[/]/. Example: /vol/src_vol/src_lun.

Element definition: **lun-snap-usage-lun-info**

[top]

Details of the LUN backed by specified snapshot.

Name	Range	Type	Description
backing-store		string	Path of the LUN serving as the backing store.
path		string	Path of the LUN.
snapshot		string	Name of the snapshot in which the LUN exists.

Element definition: **lun-stats-info**

[top]

Stats for a LUN.

Name	Range	Type	Description
block-size		integer optional	Disk block size for this LUN in bytes. This attribute is unavailable when the LUN is fenced for a restore operation.
last-zeroed	**[0..2^64-1]**	integer optional	Total number of seconds since the statistics for this lun were last zeroed.
other-ops	**[0..2^64-1]**	integer	Total number of other SCSI ops executed.
path		string	path of the LUN. (for example, "/vol/vol0/lun1")
read-blocks	**[0..2^64-1]**	integer optional	Number of disk blocks read. This attribute is unavailable when the LUN is fenced for a restore operation.
read-ops	**[0..2^64-1]**	integer	Total number of SCSI read ops executed.
scsi-errors	**[0..2^64-1]**	integer	Total number of SCSI errors.
vserver		string optional	Vserver containing the lun
write-blocks	**[0..2^64-1]**	integer optional	Number of disk blocks written. This attribute is unavailable when the LUN is fenced for a restore operation.
write-ops	**[0..2^64-1]**	integer	Total number of SCSI write ops executed.

Element definition: **mixed-ostype-initiator-info**

[top]

Information about an initiator which is a member of initiator groups of differing OS types. An initiator can only be a member of initiator groups which have the same OS type across all the initiator groups it is a member of.

Name	Range	Type	Description
initiator-group-name-1		string	Name of this initiator group.
initiator-group-name-2		string	Name of this initiator group.
initiator-group-os-type-1		initiator-group-os-type	OS type of the initiator group
initiator-group-os-type-2		initiator-group-os-type	OS type of the initiator group
initiator-name		string	Name of the initiator.

Element definition: **mixed-vsa-initiator-info**

[top]

Information about an initiator which is a member of initiator groups with differing Volume Set Addressing (VSA) settings. This will cause unexpected problems with the initiator.

Name	Range	Type	Description
initiator-group-name-1		string	Name of the first initiator group that the initiator is a member of.
initiator-group-name-2		string	Name of the second initiator group that the initiator is a member of.
initiator-name		string	Name of the initiator.
is-vsa-enabled-1		boolean	If true, members of the first initiator group, identified by initiator-group-name-1, will use VSA on the filer.

is-vsa-enabled-2		boolean	If true, members of the second initiator group, identified by initiator-group-name-2, will use VSA on the filer.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **persistent-reservation-info**

[top]

Information about the persistent reservation

Name	Range	Type	Description
fcp-pr-nexus		fcp-pr-nexus optional	This is the I_T_Nexus info for an FCP type reservation.
iscsi-pr-nexus		iscsi-pr-nexus optional	This is the I_T_Nexus info for an iSCSI type reservation.
reservation-key		string optional	Value of persistent reservation key that is registered for the given lun.
reservation-type		string	Type of persistent reservation. Possible values: "fcp", "iscsi".
reservation-type-code		string optional	Type of persistent reservation held by the I_T_Nexus, if any. Please refer to the SCSI Primary Command (SPC) specification for full details on reservation types. Possible values: • "read shared", • "write exclusive", • "exclusive access", • "write exclusive registrants only", • "exclusive access registrants only", • "write exclusive all registrants", • "exclusive access all registrants".
scsi-revision		string	The SCSI specification revision for the reservation. Possible values: "scsi2", "scsi3".

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-error**

[top]

The error code of a given volume.

Name	Range	Type	Description
errno		integer optional	The error code of the snapshot operation for a given volume. It is returned only when an error is found.
name		volume-name	Name of a volume.
reason		string optional	Description of the error. It is returned only when an error is found.
vserver		string optional	Virtual server containing the volume.

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **alignment-state** [top]

aligned|misaligned|partial-writes|indeterminate Possible values:

- "aligned" - All or most of the IO to the LUN is aligned to the underlying file,
- "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file,
- "partial_writes" - A significant amount of IO to the LUN is partial,
- "indeterminate" - There is not enough IO to determine the LUN's alignment state

[none]

Element definition: **fcp-pr-nexus** [top]

Information about FCP nexus owning the persistent reservation These two components identify the relationship between the FCP initiator and the target.

Name	Range	Type	Description
initiator-port		string	FCP initiator port part of I_T_Nexus owning the persistent reservation key.
target-port		string optional	FCP target port part of I_T_Nexus owning the persistent reservation key.
third-party-initiator-port		string optional	The FCP port name (WWPN) of the third-party initiator the reservation is being held for. For use in SCSI-2 only.

Element definition: **fli-admin-state-enum** [top]

stopped|started|paused Possible values:

- "stopped" ,
- "started" ,
- "paused"

[none]

Element definition: **fli-operation-enum** [top]

import|verify Possible values:

- "import" ,

- "verify"

[none]

Element definition: **fli-operational-state-enum**

[top]

in_progress|failed|completed|stopped|paused Possible values:

- "in_progress" ,
- "failed" ,
- "completed" ,
- "stopped" ,
- "paused"

[none]

Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

Element definition: **initiator-info**

[top]

Information about one initiator.

Name	Range	Type	Description
initiator-name		string	Name of the initiator.

Element definition: **iscsi-pr-nexus**

[top]

Information about iSCSI nexus owning the persistent reservation These three components identify the relationship between the iSCSI initiator and the target.

Name	Range	Type	Description
initiator		string	Name of initiator holding the reservation i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346.
isid		string	The Initiator Session ID for the persistent reservation owner. The ISID is a numeric Initiator Session ID assigned by the initiator which acts as part of the initiators identity.
third-party-initiator-name		string optional	The name of the third-party initiator the reservation is being held for. For use in SCSI-2 only. i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346.
tpgroup-tag	**[0..2^16-1]**	integer optional	The target portal group tag of the persistent reservation owner.
tpgtag		string optional	The target portal group tag of the persistent reservation owner. For historical reasons, the value is represented as a 4-byte hexadecimal number in little-endian byte order.

Element definition: **partition-list-entry**

[top]

Partition entries on the LUN.

Name	Range	Type	Description
partition-offset	**[0..2^64-1]**	integer optional	Partition start offset. Attributes: non-creatable, non-modifiable
partition-type		string optional	Type of the partition in the partition table. Attributes: non-creatable, non-modifiable

Element definition: **partition-scheme**

[top]

aix|gpt|mbr|sun-vtoc|unknown Possible values:

- "mbr" - Master Boot Record Partition Table Scheme,
- "gpt" - GUID Partition Table Scheme,
- "unknown" - Unrecognized partition scheme or an unformatted LUN,
- "sun_vtoc" - Sun VTOC Partition Table Scheme,
- "aix" - IBM AIX Disk Label

[none]

Element definition: **read-histogram-entry**

[top]

Histogram of read operations of size 4k in percentage value.

Name	Range	Type	Description
bin-number	**[0..2^32-1]**	integer optional	Histogram bin number Attributes: non-creatable, non-modifiable
bin-value	**[0..2^32-1]**	integer optional	Read histogram bin percentage value. Attributes: non-creatable, non-modifiable

Element definition: **sfod-scanner-status**

[top]

Preparing|Allocation-Map|Data|Destroying|Paused-Manual|Paused-Error|Complete|Destroyed|Terminated-Manual Possible values:

- "preparing" - Preparing,
- "allocation_map" - Allocating,
- "data" - Moving Data,
- "destroying" - Destroying,
- "paused_manual" - Manually Paused,
- "paused_error" - Paused by Error,
- "complete" - Complete,
- "destroyed" - Destroyed,
- "terminated_manual" - Manually Terminated

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **write-histogram-entry**

[top]

Histogram of write operations of size 4k in percentage value.

Name	Range	Type	Description
bin-number	**[0..2^32-1]**	integer optional	Histogram bin number Attributes: non-creatable, non-modifiable
bin-value	**[0..2^32-1]**	integer optional	Write histogram bin percentage value. Attributes: non-creatable, non-modifiable

APIs in Category: **metrocluster**

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metrocluster-check-aggregate-eligibility-get-iter
metrocluster-check-aggregate-get-iter
metrocluster-check-capture-status-get
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metrocluster-check-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

Input Name	Range	Type	Description
aggregate		aggr-name	The aggregate being evaluated for config-replication volume hosting eligibility.
desired-attributes		metrocluster-check-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-check-aggregate-eligibility-info	The attributes of the metrocluster-check-aggregate-eligibility.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-aggregate-eligibility-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-aggregate-eligibility object. All metrocluster-check-aggregate-eligibility objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-aggregate-eligibility-info[] optional	The list of attributes of metrocluster-check-aggregate-eligibility objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-check-aggregate-eligibility objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

metrocluster-check-aggregate-get-iter

[top]

Iterate over a list of metrocluster-check-aggregate-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-aggregate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-aggregate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-aggregate-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-capture-status-get

[top]

This API returns information regarding the capture status of replicated metrocluster configuration data.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-capture-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		status-info optional	available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-check-capture-status-info	The attributes of the metrocluster-check-capture-status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-cluster-get-iter

[top]

Iterate over a list of metrocluster-check-cluster-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-cluster-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-cluster-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-cluster-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-config-replication-get

[top]

Obtain the results of the MetroCluster config replication checks.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-config-replication-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-check-config-replication-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-get-iter

[top]

Iterate over a list of metrocluster-check-info objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-lif-repair-placement

[top]

The MetroCluster-check-lif-repair-placement API verifies LIF placement in the destination cluster for the sync-source Vserver LIF in a MetroCluster setup.

Input Name	Range	Type	Description
lif		string optional	sync-source Vserver LIF
vserver		string	sync-source Vserver in the MetroCluster configuration

Errno	Description
EMCC_LIF_REPAIR_STREAM_ERROR	
EMCC_CHECK_SUGGEST_VSERVER_ON_REMOTE_CLUSTER	

metrocluster-check-lif-update-vserver-name

[top]

The MetroCluster-check-lif-update-vserver-name API updates the Vserver name for failed LIF placement entries for Vserver LIFs after the Vserver has been renamed in a MetroCluster setup.

Input Name	Range	Type	Description
all		boolean optional	all Vservers that have been renamed
vserver-uuid		string optional	Vserver UUID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-node-get-iter

[top]

Iterate over a list of metrocluster-check-node-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-node-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-run

[top]

The metrocluster-check-run API starts a check on the metrocluster configuration. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
skip-dr-simulation		boolean optional	If this is set to true, switchover and switchback simulations are skipped.
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Check Job Id
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CLEAR_CHECK_RESULTS_FAIL	
EMCC_CLUSTER_PEER_UNAVAILABLE	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_PEER_CHECK_FAIL	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-check-volume-get-iter

[top]

Iterate over a list of metrocluster-check-volume objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-volume-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-volume-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-volume-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two clusters in DR relationship for MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source cluster to destination cluster. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-cluster-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-cluster-uuid		uuid	External UUID of destination cluster
instance	[0..2^32-	integer	The count of object instance

	1]		
keys		key-value-pair[]	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1
object		string	The Cluster-Domain configuration object being compared - for example, aggrView
source-cluster-uuid		uuid	External UUID of source cluster

Output Name	Range	Type	Description
attributes		config-cluster-diff-info	The attributes of the metrocluster.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

metrocluster-config-diff-get-iter

[top]

Provides the differences in configuration between two clusters in DR relationship for MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-cluster-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		config-cluster-diff-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		config-cluster-diff-info[] optional	The list of attributes of metrocluster objects.
next-tag		string	Tag for the next call. Not present when there are no more

		optional	metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

metrocluster-config-replication-cluster-storage-configuration-get

[top]

The metrocluster-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

Input Name	Range	Type	Description
desired-attributes		metrocluster-cr-storage-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-cr-storage-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-config-replication-cluster-storage-configuration-modify

[top]

The metrocluster-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

Input Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-config-replication-resync-status-get

[top]

Get MetroCluster configuration replication synchronization information

Input Name	Range	Type	Description
desired-attributes		metrocluster-config-replication-resync-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-config-replication-resync-status-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-configure

[top]

The metrocluster-configure API configures a node and its DR partner to mirror NVRAM and be configured to participate in a DR switchover. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
node-name		string optional	Name of the node
refresh		boolean optional	This optional parameter, if set to true, causes the node to refresh the configuration of its partners and to discard the previous configuration. This is defaulted to false
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
result-error-code	[0..2^32-1]	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.

result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_NODE_NOT_IN_CLUSTER	

metrocluster-create-periodic-job

[top]

The create-periodic-job API creates the periodic check job.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-delete-periodic-job

[top]

The delete-periodic-job API deletes the periodic check job.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-disable-periodic-check

[top]

The metrocluster-disable-periodic-check API disables periodic check on the metrocluster configuration.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-enable-periodic-check

[top]

The enable-periodic-check API enables periodic check on the metrocluster configuration.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-get

[top]

Get MetroCluster configuration information

Input Name	Range	Type	Description
desired-attributes		metrocluster-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-heal

[top]

The metrocluster-heal API heals aggregates and partner roots in preparation for a DR switchback. Healing of aggregates and partner roots is done in two phases by the admin. DR partner nodes must be powered off and remote disk shelves must be powered on before calling this API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
healing-phase		string	Specifies the healing phase. The first phase heals aggregates by resyncing mirrored plexes and replaying the nvlogs of non-mirrored aggregates. The second phase heals the root aggregates of partner nodes. Possible values: • "aggregates" , • "root_aggregates"
start-on-node-and-skip-node-		string	Specify which Node Job Starts On and Skip Node Version Checks

version-checks		optional	

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_HEAL_AGGRS_BYPASS_INVALID_DRC_STATE	
EMCC_HEAL_AGGRS_INVALID_DRC_STATE	
EMCC_HEAL_ROOTS_INVALID_DRC_STATE	

metrocluster-interconnect-adapter-get-iter

[top]

Iterate over a list of metrocluster-interconnect-adapter objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-adapter optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-adapter optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect adapter object. All metrocluster interconnect adapter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-adapter[] optional	The list of attributes of metrocluster interconnect adapter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect adapter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-ipfo-get-iter

[top]

Iterate over a list of metrocluster-interconnect-ipfo objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-ipfo optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-ipfo optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect ipfo object. All metrocluster interconnect ipfo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-ipfo[] optional	The list of attributes of metrocluster interconnect ipfo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect ipfo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-mirror-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-mirror	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-mirror optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror object. All metrocluster interconnect mirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-mirror[] optional	The list of attributes of metrocluster interconnect mirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect mirror objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-mirror-multipath-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror-multipath objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-mirror-multipath optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-mirror-multipath optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror multipath object. All metrocluster interconnect mirror multipath objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		metrocluster-	

attributes-list		interconnect-mirror-multipath[] optional	The list of attributes of metrocluster interconnect mirror multipath objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect mirror multipath objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-remotecluster-get-iter

[top]

Get MetroCluster Interconnect Remote Cluster Reachable

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-remotecluster-reachable optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-remotecluster-reachable optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-remotecluster-reachable[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-is-configured

[top]

The metrocluster-is-configured API returns a value indicating if the cluster is configured for MetroCluster.

Output Name	Range	Type	Description
is-mcc-config		boolean	Is MetroCluster Configured

Errno	Description
EOK	
EMCC_UNABLE_TO_DETERMINE_METROCLUSTER_CONFIGURATION	

metrocluster-node-get-iter

[top]

Iterate over a list of metrocluster-node-info objects belonging to MetroCluster nodes

Input Name	Range	Type	Description
desired-attributes		metrocluster-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-node-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-operation-get-iter

[top]

Iterate over a list of MetroCluster operations and their details

Input Name	Range	Type	Description
desired-attributes		metrocluster-operation-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-operation-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-operation-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-operation-statistics-get-iter

[top]

Iterate over a list of Metrocluster operation statistics.

Input Name	Range	Type	Description
desired-attributes		metrocluster-operation-statistics-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-operation-statistics-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		metrocluster-operation-	

list		statistics-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-progress-table-get-iter

[top]

Iterate over a list of metrocluster-progress-table-info objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-progress-table-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-progress-table-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-progress-table-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-show-lif-placement-failures-get-iter

[top]

Iterate over a list of LIF placement failures in a MetroCluster setup.

Input Name	Range	Type	Description

desired-attributes		metrocluster-show-lif-placement-failures optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-show-lif-placement-failures optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-show-lif-placement-failures[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-switchback

[top]

The metrocluster-switchback API initiates the switchback of storage and client access from nodes in the DR site to their home nodes. The home nodes and storage shelves must be powered on and reachable by nodes in the DR site. The metrocluster heal-aggregates and metrocluster heal-roots APIs must have successfully completed before running the metrocluster-switchback API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
override-cluster-stream-resync-errors		boolean optional	If this optional parameter is set to true, the system overrides errors during the cluster stream resync phase that might prevent the switchback operation. This is defaulted to false
override-vetoes		boolean optional	If this optional parameter is set to true, the system overrides subsystem vetoes that might prevent the switchback operation. This is defaulted to false
override-vserver-stream-resync-errors		boolean optional	If this optional parameter is set to true, the system overrides errors during the vserver stream resync phase that might prevent the switchback operation. This is defaulted to false
simulate		boolean	If this optional parameter is set to true, the system runs a simulation of the switchback operation to make sure all the

		optional	prerequisites for the operation are met. This is defaulted to false.
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Switchback Job Id
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_HA_CONFIGURE_NOT_DONE	
EMCC_INTERNAL_ERROR	
EMCC_INTERNAL_ERROR_WITH_REASON	
EMCC_INVALID_RELATIONSHIP_TYPE	
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_NODE_NOT_IN_CLUSTER	
EMCC_UNASSIGN_INTERNAL_ERROR	
EMCC_SB_INVALID_DRC_STATE	
EMCC_SB_NODE_NOT_CONFIGURED	
EMCC_SB_NOT_ALLOWED_ON_DISASTER_CLUSTER	
EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED	
EMCC_SB_RECOVERY_STATE_UNKNOWN	

metrocluster-switchover

[top]

The metrocluster-switchover API initiates the switchover of storage and client access from a disaster stricken site to the DR site. Nodes in the disaster stricken site must be powered off and unreachable by nodes in the DR site before initiating the switchover operation. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
automatic		boolean optional	This is a hidden option. It is used when Automatic USO is done programatically in 2-node MCC configurations.
controller-replacement		boolean optional	If this optional parameter is used, the nodes in the DR site will be halted.
			If set to true, all volumes being switched over will have their in-

force-nvfail-all		boolean optional	nvfailed-state set to true by the switchover API. Also the force-nvfail-on-dr option will be set to true on the volumes that are not already enabled. The default value is false.
forced-on-disaster		boolean optional	This option is used when all the nodes on the disaster stricken site are powered off and unreachable. In absence of this parameter, the command implies a planned switchover operation
override-vetoes		boolean optional	If this optional parameter is used, the system overrides subsystem vetoes that might prevent the switchover operation
retry-failed-nodes		string[] optional	This optional parameter is available at the advanced privilege level. When a list of nodes is specified by name or UUID, the switchover API is directed to those nodes only. The option is used to make the list of nodes redo a previously failed switchover operation. By default all eligible nodes are switched over
simulate		boolean optional	If this optional parameter is set to true, the system runs a simulation of the negotiated switchover operation to make sure all the prerequisites for the operation are met. This is defaulted to false.
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Switchover Job Id
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_INTERNAL_ERROR	
EMCC_INTERNAL_NODE_ERROR	
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_NODE_NOT_IN_CLUSTER	
EMCC_NOT_MCC_CONFIG	
EMCC_SO_INVALID_PARAMS	
EMCC_UNASSIGN_INTERNAL_ERROR	
EMCC_NSO_FAILED_DOWN_NODES	
EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED	
EMCC_SB_NSO_PRIMARY_NODES_NOT_HEALTHY	
EMCC_SO_DRC_NOT_IN_PARTIAL_STATE	
EMCC_SO_INVALID_DRC_STATE	
EMCC_SO_LOC_NODE_NOT_IN_QUORUM	
EMCC_SO_NODE_INVALID_DRC_STATE	
EMCC_SO_NO_NODES_CAPABLE	

metrocluster-unconfigure

[top]

The metrocluster-unconfigure API wipes the configuration from nodes in a DR group which are in the local cluster where the API is issued. This includes all the nodes in the specified DR group in that local cluster. Nodes in the DR group are disallowed from participating in the metrocluster switchover after the configuration has been wiped. This API is used to tear down a metrocluster setup. The tear down of a node is completed when the hardware that activates the node for metrocluster, such as an FC-VI adapter, is removed or deactivated. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CONFIGURE_NOT_DONE	
EMCC_DR_PARTNERS_CONFIG_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_INTERNAL_ERROR	
EMCC_INTERNAL_NODE_ERROR	
EMCC_INVALID_DR_GROUP_ID	
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_NODE_NOT_IN_CLUSTER	
EMCC_UNASSIGN_INTERNAL_ERROR	
EMCC_UNASSIGN_NODE_ALREADY_DONE	
EMCC_UNASSIGN_NODE_INTERNAL_ERROR	
EMCC_UNASSIGN_PEER_CLUSTER_UNCONFIGURED	
EMCC_UNASSIGN_PEER_CLUSTER_WARNING	

metrocluster-vserver-get-iter

[top]

Iterate over a list of metrocluster objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-vserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-vserver-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-vserver-resync

[top]

Resynchronize Vserver with its partner Vserver

Input Name	Range	Type	Description
cluster-name		cluster-name	Name of the Cluster which contains the Vserver
source-vserver		string	Vserver in the MetroCluster relationship

Errno	Description
ERESYNCFAILEDRETRY	
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **config-cluster-diff-info**

[top]

Check for configuration differences between replicated cluster-domain tables When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attribute-diff-list		config-cluster-attribute-info[] optional	The list of attributes that differ
destination-cluster-name		string optional	Name of destination cluster Attributes: non-creatable, non-modifiable
destination-cluster-uuid		uuid optional	External UUID of destination cluster Attributes: key, non-creatable, non-modifiable
instance	**[0..2^32-1]**	integer optional	The count of object instance Attributes: key, non-creatable, non-modifiable
keys		key-value-pair[] optional	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable
object		string optional	The Cluster-Domain configuration object being compared - for example, aggrView Attributes: key, non-creatable, non-modifiable
skip-excluded-fields		boolean optional	Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable
source-cluster-name		string optional	Name of source cluster Attributes: non-creatable, non-modifiable
source-cluster-uuid		uuid optional	External UUID of source cluster Attributes: key, non-creatable, non-modifiable

Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

Element definition: **metrocluster-check-aggregate-eligibility-info** [top]

MetroCluster Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		aggr-name optional	The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable
comment		string optional	If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable
hosted-configuration-replication-volumes		volume-name[] optional	The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable
is-eligible-to-host-additional-volumes		boolean optional	Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-check-aggregate-info** [top]

MetroCluster check aggregate info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string[] optional	Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable
aggregate		string optional	Name of the aggregate that was checked. Attributes: key, non-creatable, non-modifiable

check		string optional	Name of the check that was checked. Possible values: • 'mirrored' • 'disk_pool_allocation' Attributes: key, non-creatable, non-modifiable Possible values: • "mirroring_status" - Mirroring status, • "disk_pool_allocation" - Disk pool allocation, • "ownership_state" - Check for left-behind aggregates, • "fabricpool_mirror_status" - FabricPool Mirror status
cluster-name		string optional	Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node that the aggregate belonged to. Attributes: key, non-creatable, non-modifiable
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-capture-status-info**

[top]

MetroCluster Config-Replication Capture in Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-capture-in-progress		boolean optional	Whether or not a configuration change is actively being captured. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-check-cluster-info**

[top]

MetroCluster check cluster info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable
check		string optional	Name of the check that was checked. Possible values: • 'negotiated_switchover_ready' • 'switchback_ready' • 'job_schedules' • 'licenses' • 'onboard_key_management' • 'external_key_management' Attributes: key, non-creatable, non-modifiable Possible values: • "none" - No DR OP-ready check is performed, • "negotiated_switchover_ready" - Check if the cluster is ready for a negotiated switchover operation, • "switchback_ready" - Check if the cluster is ready for a switchback operation, • "job_schedules" - Check if the job schedules between the local and the remote cluster are consistent, • "licenses" - Check if the licenses between the local and the remote cluster are consistent, • "periodic_check_enabled" - Check if the periodic MetroCluster Check job is enabled, • "onboard_key_management" - Check if onboard key management hierarchies are consistent, • "external_key_management" - Check if external key management configurations are consistent
cluster-name		string optional	Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' • 'not-applicable' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-config-replication-info**

[top]

Results of the MetroCluster config replication checks When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication Cluster streams. Attributes: non-creatable, non-modifiable
cluster-streams		string optional	Verifies that MetroCluster configuration replication Cluster streams are healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
heartbeat-recovery-steps		string optional	Recovery steps in case the check finds a problem with the remote heartbeat. Attributes: non-creatable, non-modifiable
is-enabled		boolean optional	Verifies that MetroCluster configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable
is-running		boolean optional	Verifies that MetroCluster configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable
last-heartbeat-received		datetime optional	The timestamp of the last MetroCluster configuration replication hearbeat received from the remote cluster. Attributes: non-creatable, non-modifiable
last-heartbeat-sent		datetime optional	The timestamp of the last MetroCluster configuration replication heartbeat sent to the remote cluster. Attributes: non-creatable, non-modifiable
recovery-steps		string optional	Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable
remote-heartbeat		string optional	Verifies that the MetroCluster configuration replication heartbeat with the remote cluster is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
			The location of MetroCluster configuration replication storage.

storage-in-use		string optional	Examples: • Node Local on node-123 • Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A • Unavailable Attributes: non-creatable, non-modifiable
storage-non-healthy-reason		string optional	The underlying root cause for non-healthy MetroCluster configuration replication storage. Attributes: non-creatable, non-modifiable
storage-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable
storage-status		string optional	Verifies that MetroCluster configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
vserver-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable
vserver-streams		string optional	Verifies that MetroCluster configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

Element definition: **metrocluster-check-info**

[top]

MetroCluster check info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information/Recovery steps Attributes: non-creatable, non-modifiable
			Name of the component that was checked. Possible values: • 'nodes', • 'aggregates',

component		string optional	• 'clusters' Attributes: key, non-creatable, non-modifiable Possible values: • "nodes" - Checks For Nodes In MetroCluster, • "lifs" - Checks For LIFs in MetroCluster, • "config_replication" - Checks For Config Replication In MetroCluster, • "aggregates" - Checks For Aggregates In MetroCluster, • "clusters" - Checks For Clusters DR-ready Status, • "connections" - Checks For Connections In MetroCluster Over IP, • "volumes" - Checks For Volumes In MetroCluster
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-node-info**

[top]

MetroCluster check node info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information/Recovery steps in case the check finds a configuration error. Attributes: non-creatable, non-modifiable
			Name of the check that was checked. Possible values: • 'reachable' • 'metrocluster_ready', • 'ha_partner_in_same_cluster', • 'ha_mirroring', • 'symmetric_ha_relationship', • 'dr_partner_in_peer_cluster' • 'dr_mirroring'

check		string optional	'symmetric_dr_relationship' • 'dr_auxiliary_in_peer_cluster' • 'symmetric_dr_auxiliary_relationship' Attributes: key, non-creatable, non-modifiable Possible values: • "node_reachable" - Is the node reachable, • "metrocluster_ready" - Ready for MetroCluster configuration, • "local_ha_partner" - HA partner in same cluster, • "ha_mirroring_on" - HA mirroring, • "ha_mirroring_op_state" - HA mirroring operational state, • "symmetric_ha_relationship" - Symmetric HA relationship, • "remote_dr_partner" - DR partner in peer cluster, • "dr_mirroring_on" - DR Mirroring, • "dr_mirroring_op_state" - DR Mirroring operational state, • "symmetric_dr_relationship" - Symmetric DR relationship, • "remote_dr_auxiliary_partner" - DR Auxiliary in peer cluster, • "symmetric_dr_auxiliary_relationship" - Symmetric DR Auxiliary relationship, • "storage_failover_enabled" - Is storage failover enabled, • "has_intercluster_lif" - Check if the node has an intercluster LIF, • "node_object_limit" - Is node object limit option turned on, • "automatic_uso" - Is automatic USO enabled
cluster-name		string optional	Name of the cluster the node belongs to. Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node that was checked. Attributes: key, non-creatable, non-modifiable
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-volume-info**

[top]

MetroCluster check volume info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string[] optional	Additional information/Recovery steps when the check finds a configuration error. Attributes: non-creatable, non-modifiable
check		string optional	Name of the check that was checked. Possible values: • 'unmirrored_flexgroups' • 'mixed_flexgroups' Attributes: key, non-creatable, non-modifiable Possible values: • "unmirrored_flexgroups" - Check to see if any FlexGroups reside on unmirrored aggregates, • "mixed_flexgroups" - Check to see if any FlexGroups reside on a mix of mirrored and unmirrored aggregates
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' • 'not-applicable' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable
volume		string optional	Volume which these results were generated. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Vserver which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-config-replication-resync-status-info** [top]

MetroCluster configuration replication synchronization status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
inbound-completion-percentage	**[0..2^64-1]**	integer optional	Inbound Completion Percentage Attributes: non-creatable, non-modifiable
			Inbound Synchronization State

inbound-sync-state		string optional	Possible values: • 'messaging', • 'complete', • 'failed' Attributes: non-creatable, non-modifiable
local-cluster-name		string optional	Local Cluster Name Attributes: non-creatable, non-modifiable
outbound-completion-percentage	**[0..2^64-1]**	integer optional	Outbound Completion Percentage Attributes: non-creatable, non-modifiable
outbound-sync-state		string optional	Outbound Synchronization State Possible values: • 'messaging', • 'complete', • 'failed' Attributes: non-creatable, non-modifiable
remote-cluster-name		string optional	Remote Cluster Name Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-cr-storage-info**

[top]

MetroCluster Config-Replication Cluster Storage Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable
use-mirrored-aggregate		boolean optional	Specifies whether mirrored aggregates are currently in use by metrocluster configuration replication. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-info**

[top]

MetroCluster configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
configuration-type		string optional	MetroCluster configuration type Attributes: non-creatable, non-modifiable Possible values: • "invalid" - Invalid topology, • "stretch" - Stretch topology, • "fabric" - Fabric topology, • "two_node_fabric" - Two-node fabric topology, • "ip_fabric" - IP fabric topology, • "ip_two_node_fabric" - Two-node IP fabric topology, • "mixed_fabric" - FC-IP fabric topology
local-allow-forced-auso		boolean optional	Allow Forced AUSO on Local Cluster Attributes: non-creatable, non-modifiable
local-auso-failure-domain		string optional	AUSO Failure Domain on Local Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Automatic USO trigger criteria could not be determined, • "not_reachable" - Cluster is not reachable, • "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down, • "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down, • "auso_disabled" - Automatic USO will not be triggered
local-cluster-name		string optional	Name of the Local Cluster Attributes: non-creatable, non-modifiable
local-configuration-state		string optional	State of the Local Cluster Configuration Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Mode could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "configuration_error" - MetroCluster is not ready for use. Error in configuration., • "partially_configured" - MetroCluster is partially configured, some nodes are not configured., • "configured" - MetroCluster is completely configured
local-mode		string optional	Mode of Operation of Local Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - State could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "normal" - Cluster is in normal mode, • "switchover" - Cluster is in switchover mode, • "waiting_for_switchback" - Cluster is waiting for switchback, • "partial_switchover" - Cluster is in partial switchover mode, • "partial_switchback" - Cluster is in partial switchback mode
local-periodic-		boolean	Is Periodic Check Enabled on Local Cluster Attributes: non-

check-enabled		optional	creatable, non-modifiable
remote-allow-forced-auso		boolean optional	Allow Forced AUSO on Remote Cluster Attributes: non-creatable, non-modifiable
remote-auso-failure-domain		string optional	AUSO Failure Domain on Remote Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Automatic USO trigger criteria could not be determined, • "not_reachable" - Cluster is not reachable, • "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down, • "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down, • "auso_disabled" - Automatic USO will not be triggered
remote-cluster-name		string optional	Name of the Remote Cluster Attributes: non-creatable, non-modifiable
remote-configuration-state		string optional	State of the Remote Cluster Configuration Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Mode could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "configuration_error" - MetroCluster is not ready for use. Error in configuration., • "partially_configured" - MetroCluster is partially configured, some nodes are not configured., • "configured" - MetroCluster is completely configured
remote-mode		string optional	Mode of Operation of Remote Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - State could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "normal" - Cluster is in normal mode, • "switchover" - Cluster is in switchover mode, • "waiting_for_switchback" - Cluster is waiting for switchback, • "partial_switchover" - Cluster is in partial switchover mode, • "partial_switchback" - Cluster is in partial switchback mode
remote-periodic-check-enabled		boolean optional	Is Periodic Check Enabled on Remote Cluster Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-adapter**

[top]

Metrocluster interconnect adapter. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Name of the interconnect adapter. For example: cxgb3_0, fcvi_device_0. Attributes: key, non-creatable, non-modifiable
adapter-type		string optional	Type of adapter. Possible Values: • 'IB', • 'iWARP', • 'FC-VI', • 'M-VIA' Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware version of the adapter. For example: 7.7.209, 113.01.00. Attributes: non-creatable, non-modifiable
ip-address		string optional	IP address of the adapter. For example: 1.0.12.2. Attributes: non-creatable, non-modifiable
is-ood-enabled		boolean optional	Is Out-of-Order delivery enabled for the adapter port? Attributes: non-creatable, non-modifiable
link-speed		string optional	Link speed (in Gbps) configured for the adapter port. Possible Values: • '1G', • '2G', • '4G', • '8G', • '16G' Attributes: non-creatable, non-modifiable
link-speed-neg-type		string optional	Type of negotiation done for adapter port speed. Possible Values: • 'Manual', • 'Auto' Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node. Attributes: key, non-creatable, non-modifiable
physical-link-status		string optional	Physical link status of the adapter port. Possible Values: • 'Up', • 'Down' Attributes: non-creatable, non-modifiable
port-name		string optional	Name of the adapter port. For example: c0a, 1a. Attributes: key, non-creatable, non-modifiable
port-wwn		string optional	World Wide Name of the adapter. For example: 21:00:00:24:ff:48:ea:d0. Attributes: non-creatable, non-modifiable
remote-adapter-list		metrocluster-interconnect-remote-adapter[] optional	Information about remote metrocluster interconnect adapter.

switch-model		string optional	Model of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-name		string optional	Name of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-port-name		string optional	Name of the switch port connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-port-wwn		string optional	World Wide Name of the switch port connected to this adapter port. For example: 20:0d:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable
switch-status		string optional	Status of the switch connected to this adapter port. • 'Up', • 'Down' Attributes: non-creatable, non-modifiable
switch-vendor		string optional	Vendor of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-wwn		string optional	World wide name of the switch connected to this adapter port. For example: 10:00:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-ipfo**

[top]

Metrocluster interconnect ipfo. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	IPFO status of a node. Attributes: non-creatable, modifiable
is-timeout-trigger-enabled		boolean optional	Timeout trigger status of a node. Attributes: non-creatable, modifiable
node-name		node-name optional	Name of the node. Attributes: key, non-creatable, non-modifiable
timeout-trigger-value	**[0..2^32-1]**	integer optional	Timeout based trigger in msecs. Attributes: non-creatable, modifiable

Element definition: **metrocluster-interconnect-mirror**

[top]

Object for cross-cluster NVRAM mirroring between two nodes in DR partnership. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Name of the adapter. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable
adapter-type		string optional	Type of adapter. Possible Values: • 'IB', • 'iWARP', • 'FC-VI', • 'M-VIA' Attributes: non-creatable, non-modifiable
mirroring-admin-status		string optional	Administrative status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values: • "enabled" , • "disabled"
mirroring-oper-status		string optional	Operational status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
node-name		string optional	Name of the node. Attributes: key, non-creatable, non-modifiable
partner-name		string optional	Name of the partner node. Attributes: non-creatable, non-modifiable
partner-type		string optional	Type of partner. Attributes: key, non-creatable, non-modifiable Possible values: • "ha" - High Availability Partner, • "dr" - Disaster Recovery Partner, • "aux" - Disaster Recovery Auxiliary Partner
physical-link-status		string optional	Physical link status of adapter port. Possible values: • 'Up', • 'Down' Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-mirror-multipath**

[top]

Metrocluster interconnect mirror multipath. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
multipath-policy		metroclusterinterconnectmppolicy optional	Multipath policy of the mirror. Attributes: non-creatable, modifiable Possible values: • "no_mp" - No Multipath, • "static_map" - Static Map, • "dynamic_map" - Dynamic Map, • "round_robin" - Round Robin
node-name		node-name optional	Name of the node. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-remotecluster-reachable** [top]

MetroCluster Interconnect Remote Cluster Reachable When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-remote-cluster-reachable		boolean optional	Is the remote cluster visible through an interconnect Attributes: non-creatable, non-modifiable
node		string optional	Node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	Node's UUID Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-node-info** [top]

MetroCluster node configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-configuration-info		string optional	Specifies additional configuration information Attributes: non-creatable, non-modifiable
allow-auto-forced-switchover		boolean optional	Specifies if automatic forced switchover is allowed Attributes: non-creatable, non-modifiable
automatic-uso		boolean optional	Specifies if automatic unsigned switchover is enabled Attributes: non-creatable, non-modifiable
cluster-name		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
configuration-state		string optional	Specifies the state of the node's configuration. Possible values: • 'node-unreachable', • 'configured', • 'not-configured' Attributes: non-creatable, non-modifiable
dr-auxiliary-cluster-uuid		string optional	UUID of the cluster the DR auxiliary partner belongs to Attributes: non-creatable, non-modifiable
dr-auxiliary-partner-node-name		string optional	Name of the DR auxiliary partner Attributes: non-creatable, non-modifiable
dr-auxiliary-partner-uuid		string optional	UUID of the DR auxiliary partner Attributes: non-creatable, non-modifiable
dr-auxiliary-systemid	**[0..2^32-1]**	integer optional	System Id of the DR auxiliary partner Attributes: non-creatable, non-modifiable
dr-cluster-name		string optional	Name of the DR cluster Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
dr-mirroring-state		string optional	Specifies the state of the node Possible values: • '-', • 'enabled', • 'disabled', Attributes: non-creatable, non-modifiable
dr-operation-duration	**[0..2^64-1]**	integer optional	Specifies the time taken to complete the last DR operation in seconds Attributes: non-creatable, non-modifiable
dr-operation-state		string optional	State of the DR operation. Possible values: • 'normal', • 'switchover_in progress', • 'switchover_failed', • 'switchover_completed', • 'heal_aggrs_in progress', • 'heal_aggrs_failed', • 'heal_aggrs_completed',

			• 'heal_roots_in progress', • 'heal_roots_failed', • 'heal_roots_completed', • 'switchback_in_progress', • 'switchback_failed' Attributes: non-creatable, non-modifiable
dr-partner-cluster-uuid		string optional	UUID of the cluster the DR partner belongs to Attributes: non-creatable, non-modifiable
dr-partner-node-name		string optional	Name of the DR partner Attributes: non-creatable, non-modifiable
dr-partner-systemid	**[0..2^32-1]**	integer optional	System Id of the DR partner Attributes: non-creatable, non-modifiable
dr-partner-uuid		string optional	UUID of the DR partner Attributes: non-creatable, non-modifiable
force-node-object-limit		boolean optional	Specifies if the node object limits are enforced Attributes: non-creatable, non-modifiable
ha-partner-cluster-uuid		string optional	UUID of the cluster the HA partner belongs to Attributes: non-creatable, non-modifiable
ha-partner-node-name		string optional	Name of the HA partner Attributes: non-creatable, non-modifiable
ha-partner-systemid	**[0..2^32-1]**	integer optional	System Id of the HA partner Attributes: non-creatable, non-modifiable
ha-partner-uuid		string optional	UUID of the HA partner Attributes: non-creatable, non-modifiable
mccip-node		boolean optional	Specifies if the node HAOSC setting is mccip Attributes: non-creatable, non-modifiable
node-cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-systemid	**[0..2^32-1]**	integer optional	System Id of the node Attributes: non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-operation-info**

[top]

MetroCluster operation history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information for the job Attributes: non-creatable, non-modifiable
cluster-		string	Name of the cluster the node belongs to Attributes: non-creatable,

name		optional	non-modifiable
command-line		string optional	Command Line With Options Specified Attributes: non-creatable, non-modifiable
end-time	**[0..2^31-1]**	integer optional	Time when the operation ended. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable
error-list		string[] optional	List of errors encountered during the operation Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Identifier for the job Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node Attributes: non-creatable, non-modifiable
operation		string optional	Name of the operation. Possible values: • 'configure', • 'modify', • 'switchover', • 'switchback', • 'heal_aggregates', • 'heal_root_aggregates', • 'switchback_continuation_agent', • 'unconfigure', • 'unconfigure_continuation_agent', • 'switchover-simulate', • 'switchback-simulate', • 'check', • 'dr-group-create', • 'dr-group-delete', • 'connect', • 'disconnect', • 'interface-create', • 'interface-delete', • 'interface-modify' Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown operation, • "configure" - MetroCluster configure operation, • "modify" - MetroCluster modify operation, • "switchover" - MetroCluster switchover operation, • "heal_aggregates" - MetroCluster heal aggregates operation, • "heal_root_aggregates" - MetroCluster heal root aggregates operation, • "switchback" - MetroCluster switchback operation, • "switchback_continuation_agent" - MetroCluster switchback continuation agent, • "unconfigure" - MetroCluster unconfigure operation, • "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent, • "switchover_simulate" - MetroCluster switchover simulation operation, • "switchback_simulate" - MetroCluster switchback simulation operation, • "check" - MetroCluster check operation, • "ip_setup" - MetroCluster IP setup operation, • "ip_teardown" - MetroCluster IP teardown operation, • "dr_group_create" - MetroCluster configuration-setting DR Group create operation, • "dr_group_delete" - MetroCluster configuration-setting DR Group

			delete operation, • "connect" - MetroCluster configuration-setting connect operation, • "disconnect" - MetroCluster configuration-setting disconnect operation, • "interface_create" - MetroCluster configuration-setting interface create operation, • "interface_delete" - MetroCluster configuration-setting interface delete operation, • "interface_modify" - MetroCluster configuration-setting interface modify operation, • "heal_aggr_auto" - MetroCluster automatic heal aggregates operation, • "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation, • "remove_dr_group" - MetroCluster remove DR group operation
operation-uuid		string optional	Unique identifier for the operation Attributes: key, non-creatable, non-modifiable
start-time	**[0..2^31-1]**	integer optional	Time when the operation started. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable
state		string optional	State of the operation. Possible values: • 'unknown', • 'in_progress', • 'partially_successful', • 'completed_with_manual_recovery_needed', • 'completed_with_warnings', • 'successful', • 'failed' Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Could not determine the state of the operation, • "in_progress" - The operation is in progress, • "partially_successful" - The operation has ended and it was partially successful, • "successful" - The operation has ended and it was successful, • "failed" - The operation has ended and it failed, • "completed_with_manual_recovery_needed" - The operation has ended but some steps need to be manually run, • "completed_with_warnings" - The operation has ended and it was successful but there were some warnings during the operation

Element definition: **metrocluster-operation-statistics-info**

[top]

Metrocluster opertaion statistics info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failed	**[0..2^64-1]**	integer optional	Number of failed instances of each operation Attributes: non-creatable, non-modifiable
operation		string optional	Name of the operation. Possible values: • 'configure', • 'modify', • 'switchover', • 'switchback', • 'heal_aggregates', • 'heal_root_aggregates', • 'switchback_continuation_agent', • 'unconfigure', • 'unconfigure_continuation_agent', • 'switchover-simulate', • 'switchback-simulate', • 'check', • 'dr-group-create', • 'dr-group-delete', • 'connect', • 'disconnect', • 'interface-create', • 'interface-delete', • 'interface-modify' Attributes: key, non-creatable, non-modifiable Possible values: • "unknown" - Unknown operation, • "configure" - MetroCluster configure operation, • "modify" - MetroCluster modify operation, • "switchover" - MetroCluster switchover operation, • "heal_aggregates" - MetroCluster heal aggregates operation, • "heal_root_aggregates" - MetroCluster heal root aggregates operation, • "switchback" - MetroCluster switchback operation, • "switchback_continuation_agent" - MetroCluster switchback continuation agent, • "unconfigure" - MetroCluster unconfigure operation, • "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent, • "switchover_simulate" - MetroCluster switchover simulation operation, • "switchback_simulate" - MetroCluster switchback simulation operation, • "check" - MetroCluster check operation, • "ip_setup" - MetroCluster IP setup operation, • "ip_teardown" - MetroCluster IP teardown operation, • "dr_group_create" - MetroCluster configuration-setting DR Group create operation, • "dr_group_delete" - MetroCluster configuration-setting DR Group delete operation, • "connect" - MetroCluster configuration-setting connect operation, • "disconnect" - MetroCluster configuration-setting disconnect operation,

			"interface_create" - MetroCluster configuration-setting interface create operation, • "interface_delete" - MetroCluster configuration-setting interface delete operation, • "interface_modify" - MetroCluster configuration-setting interface modify operation, • "heal_aggr_auto" - MetroCluster automatic heal aggregates operation, • "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation, • "remove_dr_group" - MetroCluster remove DR group operation
succeeded	**[0..2^64-1]**	integer optional	Number of successful instances of each operation Attributes: non-creatable, non-modifiable
total-instances	**[0..2^64-1]**	integer optional	Total number of instances of each operation Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-progress-table-info**

[top]

MetroCluster progress table info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
duration	**[0..2^64-1]**	integer optional	Time spent by this subsystem processing this operation in seconds Attributes: non-creatable, non-modifiable
entry-name		string optional	Name of the subsystem Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Resource Table Index Attributes: key, non-creatable, non-modifiable
node-name		string optional	Node Attributes: key, non-creatable, non-modifiable
state		string optional	State of the subsystem. Possible values: • 'switchover_in_progress', • 'switchover_failed_or_incomplete_for_some_nodes', • 'switchover_completed_successfully', • 'healing_phase_roots_in_progress', • 'healing_phase_roots_failed_or_incomplete_for_some_nodes', • 'healing_phase_roots_completed_successfully', • 'healing_phase_aggregates_in_progress', • 'healing_phase_aggregates_failed_or_incomplete_for_some_nodes', • 'healing_phase_aggregates_completed_successfully', • 'switchback_in_progress', • 'switchback_failed_or_incomplete_for_some_nodes'

Element definition: **metrocluster-show-lif-placement-failures**

[top]

Display LIF placement failures in MetroCluster setup When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
data-protocol		string[] optional	Data Protocol of the sync source Vserver LIF Attributes: non-creatable, non-modifiable Possible values: • "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols., • "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
lif-placement-failure		string optional	LIF Placement Failures in MetroCluster setup LIF Placement failures: • 'Port hosting the sync source vserver FC LIF in the source cluster is not connected to any fabric', • 'MetroCluster DR Node is offline', • 'No ports found on MetroCluster DR node connected to fabric with fabric name ', • 'No ports found on MetroCluster DR node of CNA adapter-type', • 'No ports found on MetroCluster DR node of FC adapter-type', • 'No ports found on MetroCluster DR node connected to the required subnet ' Attributes: non-creatable, non-modifiable
sync-source-vserver		string optional	sync-source Vserver Name Attributes: key, non-creatable, non-modifiable
sync-source-vserver-lif		string optional	sync-source Vserver LIF Name Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-vserver-info**

[top]

Metroclsuter Vserver Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		cluster-name optional	Cluster name Attributes: key, non-creatable, non-modifiable
configuration-state		vs-mcc-config-state optional	This describes the configuration state of the MetroCluster setup. It can have three possible values: healthy, unhealthy, degraded. The configuration-state is described as healthy when both the local and remote streams are up and there are no failed operations in the stream. If either the local stream's or the remote stream's operation state is not up, the configuration-state is unhealthy. If there is a failed operation in the stream, the configuration-state is degraded. Attributes: non-creatable, non-modifiable Possible values: • "healthy" , • "unhealthy" , • "degraded" , • "pending_setup" , • "syncing" , • "replication_paused" , • "pending_switchback"
failed-reason		string optional	Failed Replication Reason Attributes: non-creatable, non-modifiable
failed-row		string optional	This field appears in the output only if the failed operation is configuration_apply. This specifies the row for which the apply has failed. Attributes: non-creatable, non-modifiable
partner-vserver		string optional	Partner Vserver in the MetroCluster relationship Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver in the MetroCluster relationship Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **config-cluster-attribute-info**

[top]

The name of attribute and its values at source and destination

Name	Range	Type	Description
attribute		string optional	Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable
destination-cluster-value		string optional	Value of the configuration attribute at destination cluster Attributes: non-creatable, non-modifiable
source-cluster-value		string optional	Value of the configuration attribute at source cluster Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **metrocluster-interconnect-remote-adapter**

[top]

Information about remote metrocluster interconnect adapter.

Name	Range	Type	Description
remote-adapter-name		string optional	Name of the remote adapter connected to this adapter port. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable
remote-adapter-port-id	**[0..2^32-1]**	integer optional	ID of the remote adapter port connected to this adapter port. Attributes: non-creatable, non-modifiable

remote-adapter-port-name		node-name optional	Remote Adapter Port Name Attributes: non-creatable, non-modifiable
remote-adapter-port-wwn		string optional	World Wide Name of the remote adapter connected to this adapter port. For example: 21:00:00:24:ff:48:ff:47. Attributes: non-creatable, non-modifiable
remote-partner-node-name		node-name optional	Name of the remote partner node hosting the remote adapter. Attributes: non-creatable, non-modifiable

Element definition: **metroclusterinterconnectmppolicy**

[top]

no-mp|static-map|dynamic-map|round-robin Possible values:

- "no_mp" - No Multipath,
- "static_map" - Static Map,
- "dynamic_map" - Dynamic Map,
- "round_robin" - Round Robin

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vs-mcc-config-state**

[top]

healthy|unhealthy|degraded|pending-setup|syncing|replication-paused|pending-switchback Possible values:

- "healthy" ,
- "unhealthy" ,
- "degraded" ,
- "pending_setup" ,
- "syncing" ,
- "replication_paused" ,
- "pending_switchback"

[none]

APIs in Category: **metrocluster-check-connection**

metrocluster-check-connection-get-iter	These APIs check the connections for nodes in a MetroCluster over IP configuration

metrocluster-check-connection-get-iter

[top]

Iterate over a list of metrocluster-check-connection-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-connection-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-connection-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-connection object. All metrocluster-check-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-connection-info[] optional	The list of attributes of metrocluster-check-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-check-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-check-connection-info**

[top]

MetroCluster check connection info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
check-mtu-size-error-info		string optional	Check connection MTU size error information Attributes: non-creatable, non-modifiable
check-ping-error-info		string optional	Check connection ping error information Attributes: non-creatable, non-modifiable
check-result		string optional	Check connection result Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
check-storage-error-info		string optional	Check connection storage error information Attributes: non-creatable, non-modifiable
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-error-info		string optional	Connection configuration error information Attributes: non-creatable, non-modifiable
config-state		string optional	Connection configuration state Possible values: • 'disconnected', • 'completed', • 'connect-check', • 'connect-nvlog', • 'connect-storage', • 'disconnect-storage', • 'disconnect-nvlog', • 'connect-prepare', • 'connect-update' Attributes: non-creatable, non-modifiable
destination-address		string optional	IP address for the port on the partner node Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
home-port		string optional	Name of the port on the node Attributes: key, non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: key, non-creatable, non-modifiable
partner-cluster-uuid		string optional	UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable
partner-node		string optional	Name of the partner node Attributes: non-creatable, non-modifiable

partner-node-uuid		string optional	UUID of the partner node Attributes: non-creatable, non-modifiable
partner-type		string optional	Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable
relationship-type		string optional	Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values: • "self" , • "ha" , • "dr_primary" , • "dr_auxiliary" , • "unknown"
source-address		string optional	IP address for the port on the node Attributes: non-creatable, non-modifiable

APIs in Category: **metrocluster-configuration-settings**

metrocluster-configuration-settings-get-iter	These APIs manage the configuration settings for a MetroCluster over IP setup

metrocluster-configuration-settings-get-iter

[top]

Iterate over a list of metrocluster-configuration-settings-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-configuration-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-configuration-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-configuration-settings object. All metrocluster-configuration-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-configuration-settings-info[] optional	The list of attributes of metrocluster-configuration-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-configuration-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-configuration-settings-info**

[top]

MetroCluster configuration settings info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-error-info		string optional	Configuration error information Attributes: non-creatable, non-modifiable
configuration-status		string optional	Configuration status Attributes: non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable

APIs in Category: **metrocluster-connection**

metrocluster-connection-connect-async
metrocluster-connection-disconnect-async
metrocluster-connection-get-iter

These APIs manage the connections between source and destination network interfaces for MetroCluster over IP setup

metrocluster-connection-connect-async

[top]

Configure the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster sertup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-connection-disconnect-async

[top]

Tear down the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster setup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
dr-group-id	**[0..2^32-1]**	integer	DR Group ID

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.

result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-connection-get-iter

[top]

Iterate over a list of metrocluster-connection-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-connection-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-connection-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-connection object. All metrocluster-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-connection-info[] optional	The list of attributes of metrocluster-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-connection-info**

[top]

MetroCluster Connection configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-error-info		string optional	Connection configuration error information Attributes: non-creatable, non-modifiable
config-state		string optional	Connection configuration state Possible values: • 'disconnected', • 'completed', • 'connect-check', • 'connect-nvlog', • 'connect-storage', • 'disconnect-storage', • 'disconnect-nvlog', • 'connect-prepare', • 'connect-update' Attributes: non-creatable, non-modifiable
destination-address		string optional	IP address for the port on the partner node Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
home-port		string optional	Name of the port on the node Attributes: key, non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: key, non-creatable, non-modifiable
partner-cluster-uuid		string optional	UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable
partner-node		string optional	Name of the partner node Attributes: non-creatable, non-modifiable
partner-node-uuid		string optional	UUID of the partner node Attributes: non-creatable, non-modifiable
partner-type		string optional	Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable
relationship-type		string optional	Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values: • "self" , • "ha" , • "dr_primary" , • "dr_auxiliary" , • "unknown"
source-address		string optional	IP address for the port on the node Attributes: non-creatable, non-modifiable

APIs in Category: **metrocluster-dr-group**

metrocluster-dr-group-create
metrocluster-dr-group-delete
metrocluster-dr-group-get-iter

These APIs manage the DR groups for a MetroCluster over IP setup

metrocluster-dr-group-create

[top]

Create MetroCluster DR group

Input Name	Range	Type	Description
local-node		string	Local Node Name
partner-cluster		string	Partner Cluster Name
remote-node		string	Remote Node Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-dr-group-delete

[top]

Delete MetroCluster DR group

Input Name	Range	Type	Description
dr-group-id	**[0..2^32-1]**	integer	Dr group Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-dr-group-get-iter

[top]

Iterate over a list of metrocluster-dr-group-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-dr-group-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-dr-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-dr-group object. All metrocluster-dr-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-dr-group-info[] optional	The list of attributes of metrocluster-dr-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-dr-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-dr-group-info**

[top]

MetroCluster DR group configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
dr-partner-node		string optional	Name of the DR partner node Attributes: non-creatable, non-modifiable
dr-partner-node-uuid		string optional	UUID of the DR partner node Attributes: non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string	UUID of the node Attributes: key, non-creatable, non-modifiable

		optional	

APIs in Category: **metrocluster-interface**

metrocluster-interface-create
metrocluster-interface-delete
metrocluster-interface-get-iter

These APIs manage the logical interface for a MetroCluster over IP setup

metrocluster-interface-create

[top]

Create a MetroCluster Interface

Input Name	Range	Type	Description
address		string	Network Address
cluster-name		string	Cluster Name
home-node		string	Home Node
home-port		string	Home Port
netmask		string	Netmask
vlan-id	**[0..2^32-1]**	integer optional	Virtual LAN ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-interface-delete

[top]

Delete a MetroCluster Interface

Input Name	Range	Type	Description
cluster-name		string	Cluster Name
home-node		string	Home Node
home-port		string	Home Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-interface-get-iter

[top]

Iterate over a list of metrocluster-interface-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-interface object. All metrocluster-interface objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interface-info[] optional	The list of attributes of metrocluster-interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-interface objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-interface-info**

[top]

MetroCluster Interface configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		string optional	IP address Attributes: non-creatable, non-modifiable
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-		string	Interface configuration error information Attributes: non-creatable,

error-info		optional	non-modifiable
config-state		string optional	Interface configuration state Possible values: • 'create-interface', • 'delete-interface', • 'setup-storage', • 'teardown-storage' • 'completed', • 'prepare-connection', • 'disconnect-connection' Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
gateway		string optional	Gateway Attributes: non-creatable, non-modifiable
home-port		string optional	Name of the port on the node Attributes: key, non-creatable, non-modifiable
netmask		string optional	Netmask Attributes: non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: key, non-creatable, non-modifiable
vlan-id	**[0..2^32-1]**	integer optional	Interface virtual LAN identifier Attributes: non-creatable, non-modifiable

APIs in Category: **name-mapping**

name-mapping-create
name-mapping-delete
name-mapping-get-iter
name-mapping-insert
name-mapping-modify
name-mapping-refresh-hostname
name-mapping-swap
name-mapping-unix-group-add-user
name-mapping-unix-group-create
name-mapping-unix-group-delete-user
name-mapping-unix-group-destroy
name-mapping-unix-group-get
name-mapping-unix-group-get-iter
name-mapping-unix-group-modify
name-mapping-unix-user-create
name-mapping-unix-user-destroy
name-mapping-unix-user-get
name-mapping-unix-user-get-iter
name-mapping-unix-user-modify

This set of APIs are used to manage name mappings between Kerberos users, Windows users and UNIX users. name-mapping-unix-user APIs are used to manage local UNIX users. name-mapping-unix-group APIs are used to manage local UNIX groups. When a NFS client wishes to access a file having NTFS style permission, name-mapping rule is applied to determine the Windows User that maps to the NFS Client user under consideration. When a CIFS client wishes to access a file having UNIX style permission name-mapping rule is applied to determine the UNIX user that maps to the CIFS user under consideration. When neither NIS nor LDAP is configured, credentials for the mapped UNIX user is obtained from the local database created using name-mapping-unix-user and name-mapping-unix-group APIs.

name-mapping-create

[top]

Create a new name mapping for a Vserver.

Input Name	Range	Type	Description
address		ip-and-mask optional	IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement.
		name-	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name

direction		mapping-direction	mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname.
pattern		string	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.
replacement		string	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.
return-record		boolean optional	If set to true, returns the name-mapping on successful creation. Default: false

Output Name	Range	Type	Description
result		name-mapping-info optional	The name-mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

name-mapping-delete

[top]

Delete an existing name mapping entry.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping

position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-get-iter

[top]

Retrieve the list of name mappings in the cluster.

Input Name	Range	Type	Description
desired-attributes		name-mapping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-mapping-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-mapping object. All name-mapping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-mapping-info[] optional	The list of attributes of name-mapping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-mapping objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-mapping-insert

[top]

Insert a name mapping into the table at a specified position.

Input Name	Range	Type	Description
address		ip-and-mask optional	This optional parameter specifies the IP address which can be used to match the client IP address with the pattern.

direction		name-mapping-direction	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	This optional parameter specifies the Hostname which can be used to match the client IP address with the list of IP addresses corresspoding to the provided hostname.
pattern		string	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..2147483647]**	integer	Position within the set of name mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list.
replacement		string	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-modify

[top]

Modify an existing name mapping entry.

Input Name	Range	Type	Description
address		ip-and-mask optional	IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement.
direction		name-mapping-direction	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name

			mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname.
pattern		string optional	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.
replacement		string optional	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-refresh-hostname

[top]

Resolve The IP addresses for the configured Hostname.

Input Name	Range	Type	Description
direction		name-mapping-direction optional	Name Mapping Direction Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

[top]

name-mapping-swap

Swap the position of one name mapping with another. The position is the place in the sequence of name mappings in which the mappings are applied.

Input Name	Range	Type	Description
direction		string	Direction in which the name mapping is applied.
position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.
with-position	**[0..2^32-1]**	integer	Position of an existing name mapping entry in the list of name mappings for this Vserver. This entry will be swapped with the entry at 'position'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-unix-group-add-user

[top]

Add a user to a UNIX group

Input Name	Range	Type	Description
group-name		string	Specifies UNIX group name.
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-create

[top]

Create a new UNIX group.

Input Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer	Specifies an identification number for the UNIX group.
group-name		string	Specifies UNIX group name.
return-record		boolean optional	If set to true, returns the UNIX group information on successful creation. Default: false
skip-name-validation		boolean optional	Specifies if group name validation is skipped.

Output Name	Range	Type	Description
result		unix-group-info optional	The UNIX group information created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-delete-user

[top]

Delete a user from a UNIX group

Input Name	Range	Type	Description
group-name		string	Specifies UNIX group name.
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-destroy

[top]

Destroy an existing UNIX group.

Input Name	Range	Type	Description
group-name		string	Specifies UNIX group name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-get

[top]

Get the attributes of a UNIX group.

Input Name	Range	Type	Description
desired-attributes		unix-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
group-name		string	Specifies UNIX group name.

Output Name	Range	Type	Description
attributes		unix-group-info	The attributes of the UNIX group information.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD	

name-mapping-unix-group-get-iter

[top]

Iterate over a list of UNIX groups.

Input Name	Range	Type	Description
desired-attributes		unix-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		unix-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX group information object. All UNIX group information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		unix-group-info[] optional	The list of attributes of UNIX group information objects.
		string	Tag for the next call. Not present when there are no more UNIX

next-tag		optional	group information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD	

name-mapping-unix-group-modify

[top]

Modify the attributes of a UNIX group.

Input Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX group.
group-name		string	Specifies UNIX group name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-user-create

[top]

Create a new UNIX user.

Input Name	Range	Type	Description
full-name		string optional	Specifies the full name of the UNIX user.
group-id	**[0..2^32-1]**	integer	Specifies the primary group identification number for the UNIX user.
return-record		boolean optional	If set to true, returns the UNIX user information on successful creation. Default: false
skip-name-validation		boolean optional	Specifies if user name validation is skipped.
user-id	**[0..2^32-1]**	integer	Specifies an identification number for the UNIX user.
user-name		string	Specifies user's UNIX account name.

Output Name	Range	Type	Description
result		unix-user-info optional	The UNIX user information created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-user-destroy

[top]

Destroy an existing UNIX user.

Input Name	Range	Type	Description
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-user-get

[top]

Get the attributes of a UNIX user.

Input Name	Range	Type	Description
desired-attributes		unix-user-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
user-name		string	Specifies user's UNIX account name.

Output Name	Range	Type	Description
attributes		unix-user-info	The attributes of the UNIX user information.

Errno	Description

EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_USER_ALT_CMD	

name-mapping-unix-user-get-iter

[top]

Iterate over a list of UNIX users.

Input Name	Range	Type	Description
desired-attributes		unix-user-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		unix-user-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX user information object. All UNIX user information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		unix-user-info[] optional	The list of attributes of UNIX user information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more UNIX user information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
E_NS_CONFIG_FILEONLY_USER_ALT_CMD	

name-mapping-unix-user-modify

[top]

Modify the attributes of a UNIX user.

Input Name	Range	Type	Description
full-name		string optional	Specifies the full name of the UNIX user.

group-id	**[0..2^32-1]**	integer optional	Specifies the primary group identification number for the UNIX user.
user-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX user.
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

Element definition: **name-mapping-info**

[top]

Name mapping configuration for Vservers. The possible sources of name mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user names, UNIX user names and Kerberos principal names can be three disjoint sets of names. A mechanism is needed to map users from one set to another when performing authorization checks. Each name mapping entry represents one such map in a given direction. Name mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to 'EXAMPLE\\(.+)' and the replacement string should be set to '\1'. The double ba) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do

not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the same name. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-and-mask optional	IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. Attributes: optional-for-create, modifiable
direction		name-mapping-direction optional	Direction in which the name mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. Attributes: optional-for-create, modifiable
pattern		string optional	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable
position	**[1..2147483647]**	integer optional	Position of an existing name mapping in the list of name mappings for this Vserver. Attributes: key, required-for-create, non-modifiable
replacement		string optional	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable
vserver		string optional	Specifies the Vserver for the name mapping. Attributes: key, non-creatable, non-modifiable

Element definition: **unix-group-info**

[top]

UNIX group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX group. Attributes: required-for-create, modifiable
group-name		string optional	Specifies UNIX group name. Attributes: key, required-for-create, non-modifiable
skip-name-validation		boolean optional	Specifies if group name validation is skipped. Attributes: optional-for-create, non-modifiable
users		unix-user-name[] optional	Specifies the list of UNIX users that belong to the UNIX group.
vserver		string optional	Specifies the Vserver for the group. Attributes: key, non-creatable, non-modifiable

Element definition: **unix-user-info**

[top]

UNIX user information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
full-name		string optional	Specifies the full name of the UNIX user. Attributes: optional-for-create, modifiable
group-id	**[0..2^32-1]**	integer optional	Specifies the primary group identification number for the UNIX user. Attributes: required-for-create, modifiable
skip-name-validation		boolean optional	Specifies if user name validation is skipped. Attributes: optional-for-create, non-modifiable
user-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX user. Attributes: required-for-create, modifiable
user-name		string	Specifies user's UNIX account name. Attributes: key, required-for-

		optional	create, non-modifiable
vserver		string optional	Specifies the Vserver for the UNIX user. Attributes: key, non-creatable, non-modifiable

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

Element definition: **unix-user-name**

[top]

Specifies user name information.

Name	Range	Type	Description
user-name		string optional	Specifies user's UNIX account name. Attributes: non-creatable, non-modifiable

APIs in Category: **nameservice**

name-service-cache-group-membership-settings-get
name-service-cache-group-membership-settings-get-iter
name-service-cache-group-membership-settings-modify
name-service-cache-hosts-settings-get
name-service-cache-hosts-settings-get-iter
name-service-cache-hosts-settings-modify
name-service-cache-netgroup-settings-get
name-service-cache-netgroup-settings-get-iter
name-service-cache-netgroup-settings-modify
name-service-cache-unix-group-settings-get
name-service-cache-unix-group-settings-get-iter
name-service-cache-unix-group-settings-modify
name-service-cache-unix-user-settings-get
name-service-cache-unix-user-settings-get-iter
name-service-cache-unix-user-settings-modify
name-service-nis-binding-detail-get
name-service-nis-binding-detail-get-iter
name-service-nis-show-bound
name-service-nis-show-bound-iter
name-service-unix-group-fileonly-get
name-service-unix-user-fileonly-get
nameservice-get-hostname-from-ipv4
nameservice-get-ip-from-hostname
nameservice-get-ipv4-from-hostname
nameservice-nsswitch-create
nameservice-nsswitch-destroy
nameservice-nsswitch-get
nameservice-nsswitch-get-iter
nameservice-nsswitch-modify

name-service-cache-group-membership-settings-get

[top]

Get the name services group membership cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-group-membership-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-group-membership-	The attributes of the name-service-cache-group-membership-settings.

		settings-info	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-group-membership-settings-get-iter

[top]

Get the name services group membership cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-group-membership-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-group-membership-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-group-membership-settings object. All name-service-cache-group-membership-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-group-membership-settings-info[] optional	The list of attributes of name-service-cache-group-membership-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-group-membership-settings objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-group-membership-settings-modify

[top]

Modify the name services group membership cache configuration of the specified Vserver. Omitted

(optional) fields will not be changed.

Input Name	Range	Type	Description
grplist-ttl		time-interval optional	Time to Live for Grplist
is-enabled		boolean optional	Is Cache Enabled?

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-hosts-settings-get

[top]

Get the name services hosts cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-hosts-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-hosts-settings-info	The attributes of the name-service-cache-hosts-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-hosts-settings-get-iter

[top]

Get the name services hosts cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-hosts-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-hosts-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-hosts-settings object. All name-service-cache-hosts-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-hosts-settings-info[] optional	The list of attributes of name-service-cache-hosts-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-hosts-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-hosts-settings-modify

[top]

Modify the name services hosts cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-dns-ttl-enabled		boolean optional	Is TTL Taken from DNS
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-netgroup-settings-get

[top]

Get the name services netgroup cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-netgroup-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-netgroup-settings-info	The attributes of the name-service-cache-netgroup-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-netgroup-settings-get-iter

[top]

Get the name services netgroup cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-netgroup-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-netgroup-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-netgroup-settings object. All name-service-cache-netgroup-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		name-service-cache-netgroup-settings-info[] optional	The list of attributes of name-service-cache-netgroup-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-netgroup-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-netgroup-settings-modify

[top]

Modify the name services netgroup cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live
ttl-members		time-interval optional	TTL for netgroup members

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-unix-group-settings-get

[top]

Get the name services UNIX group cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-group-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-unix-group-settings-info	The attributes of the name-service-cache-unix-group-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-unix-group-settings-get-iter

[top]

Get the name services unix-group cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-group-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-unix-group-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-group-settings object. All name-service-cache-unix-group-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-unix-group-settings-info[] optional	The list of attributes of name-service-cache-unix-group-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-unix-group-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-unix-group-settings-modify

[top]

Modify the name services UNIX group cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
is-propagation-enabled		boolean optional	Is Propagation Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-unix-user-settings-get

[top]

Get the name services UNIX users cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-user-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-unix-user-settings-info	The attributes of the name-service-cache-unix-user-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-unix-user-settings-get-iter

[top]

Get the name services unix-user cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-user-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-unix-user-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-user-settings object. All name-service-cache-unix-user-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-unix-user-settings-info[] optional	The list of attributes of name-service-cache-unix-user-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-unix-user-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-unix-user-settings-modify

[top]

Modify the name services UNIX users cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean	Is Cache Enabled?

		optional	
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
is-propagation-enabled		boolean optional	Is Propagation Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-nis-binding-detail-get

[top]

Show bound NIS servers

Input Name	Range	Type	Description
bound-server		string	Specifies the hostname/IP address of the NIS server in the domain.
desired-attributes		nis-binding-detail optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Output Name	Range	Type	Description
attributes		nis-binding-detail	The attributes of the nis-binding-detail.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

name-service-nis-binding-detail-get-iter

[top]

Iterate over a list of bound NIS servers

Input Name	Range	Type	Description
desired-attributes		nis-binding-detail optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nis-binding-detail optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-binding-detail object. All nis-binding-detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nis-binding-detail[] optional	The list of attributes of nis-binding-detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more nis-binding-detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

name-service-nis-show-bound

[top]

Show bound nis servers

Input Name	Range	Type	Description
desired-attributes		nis-domain-show-bound optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Output Name	Range	Type	Description
attributes		nis-domain-show-bound	The attributes of the nis-show-bound.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

name-service-nis-show-bound-iter

[top]

Iterate over a list of bound nis servers

Input Name	Range	Type	Description
desired-attributes		nis-domain-show-bound optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nis-domain-show-bound optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-show-bound object. All nis-show-bound objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nis-domain-show-bound[] optional	The list of attributes of nis-show-bound objects.
next-tag		string optional	Tag for the next call. Not present when there are no more nis-show-bound objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

name-service-unix-group-fileonly-get

[top]

Display Configuration for UNIX-Group file download

Input Name	Range	Type	Description
desired-attributes		name-service-unix-group-fileonly-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
		name-	

attributes		service-unix-group-fileonly-info	The attributes of the name-service-unix-group-fileonly.

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	
EOBJECTNOTFOUND	

name-service-unix-user-fileonly-get

[top]

Display Configuration for UNIX-User file download

Input Name	Range	Type	Description
desired-attributes		name-service-unix-user-fileonly-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-unix-user-fileonly-info	The attributes of the name-service-unix-user-fileonly.

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	
EOBJECTNOTFOUND	

nameservice-get-hostname-from-ipv4

[top]

Get the host information from the IP address.

Input Name	Range	Type	Description
ip-address		string	IPv4 address of the host to be resolved, in dotted decimal notation (for example, 10.56.10.125).
node		string	Name of the node over which the command is to be run.
show-source		boolean optional	Source used for Lookup
vserver		string	Vserver Name

Output Name	Range	Type	Description
canonical-name		string	Canonical Host-Name of the IpAddress to be resolved
source		string	Source used for Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EHOSTNOTFOUND	
EHOST_TRYAGAIN	
E_NODATA	

nameservice-get-ip-from-hostname

[top]

Get the IP address information by using the host name.

Input Name	Range	Type	Description
address-family		address-family optional	Return Addresses for Family
hostname		string	Name of the host to be resolved
node		string	Name of the node over which the command is to be run.
show-source		boolean optional	Show Source used for lookup
vserver		string	Vserver Name

Output Name	Range	Type	Description
ipaddress		ip-address[]	One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.12) or the textual representation of an IPv6 address (for example, 2001:DB8:0:0:8:800:200C:417A or 2001:DB8::8:800:200C:417A). No hostname resolution
source		string	Source used for Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERNOTFOUND	
E_AGAIN	
E_NONAME	
E_MEMORY	
E_FAMILY	

nameservice-get-ipv4-from-hostname

[top]

Get the IP address information from host name.

Input Name	Range	Type	Description
hostname		string	Name of the host to be resolved
node		string	Name of the node over which the command is to be run.
show-source		boolean optional	Source used for Lookup
vserver		string	Vserver Name

Output Name	Range	Type	Description
ipaddress		ip-address[]	One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.125).
source		string	Source used for Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERNOTFOUND	
EHOSTNOTFOUND	
EHOST_TRYAGAIN	
E_NODATA	

nameservice-nsswitch-create

[top]

Create an Name Service Switch Configuration.

Input Name	Range	Type	Description
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database
nameservice-sources		nss-source-type[]	Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values: • "files" - Local File Name System service setup, • "dns" - Domain Name System service setup, • "ldap" - Lightweight Directory Access Protocol service setup, • "nis" - Network Information Service service setup
return-record		boolean optional	If set to true, returns the nsswitch on successful creation. Default: false

Output Name	Range	Type	Description
		namservice-	

result		nsswitch-config-info optional	The nsswitch created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nameservice-nsswitch-destroy

[top]

Destroy an existing Name Service Switch Configuration.

Input Name	Range	Type	Description
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nameservice-nsswitch-get

[top]

Get Name Service Switch Configuration.

Input Name	Range	Type	Description
desired-attributes		namservice-nsswitch-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database,

			"passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database

Output Name	Range	Type	Description
attributes		namservice-nsswitch-config-info	The attributes of the nsswitch.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

nameservice-nsswitch-get-iter

[top]

Iterate over a list of Name Service Switch Configurations.

Input Name	Range	Type	Description
desired-attributes		namservice-nsswitch-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		namservice-nsswitch-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the nsswitch object. All nsswitch objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		namservice-nsswitch-config-info[] optional	The list of attributes of nsswitch objects.
next-tag		string optional	Tag for the next call. Not present when there are no more nsswitch objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

nameservice-nsswitch-modify

[top]

Modify the attributes of Name Service Switch Configuration.

Input Name	Range	Type	Description
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database
nameservice-sources		nss-source-type[] optional	Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values: • "files" - Local File Name System service setup, • "dns" - Domain Name System service setup, • "ldap" - Lightweight Directory Access Protocol service setup, • "nis" - Network Information Service service setup

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **address-family**

[top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **name-service-cache-group-membership-settings-info**

[top]

Contains name services group membership cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
grplist-ttl		time-interval optional	Time to Live for Grplist Attributes: optional-for-create, modifiable
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-hosts-settings-info**

[top]

Contains name services hosts cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-dns-ttl-enabled		boolean optional	Is TTL Taken from DNS Attributes: optional-for-create, modifiable
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-netgroup-settings-info**

[top]

Contains name services netgroup cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
ttl-members		time-interval optional	TTL for netgroup members Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-unix-group-settings-info**

[top]

Contains name services UNIX group cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable

is-propagation-enabled		boolean optional	Is Propagation Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-unix-user-settings-info**

[top]

Contains name services UNIX users cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
is-propagation-enabled		boolean optional	Is Propagation Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-unix-group-fileonly-info**

[top]

name-service-unix-group-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	If 'true', the unix-groups configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable

Element definition: **name-service-unix-user-fileonly-info**

[top]

name-service-unix-user-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	If 'true', the unix-users configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable

Element definition: **namservice-nsswitch-config-info**

[top]

Name Service Switch Configuration Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
nameservice-database		nss-db-type optional	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Attributes: key, required-for-create, non-modifiable Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database
			Order of looking up Name Service Switch Sources.Possible values are

nameservice-sources		nss-source-type[] optional	files, dns, ldap or nis Attributes: required-for-create, modifiable Possible values: • "files" - Local File Name System service setup, • "dns" - Domain Name System service setup, • "ldap" - Lightweight Directory Access Protocol service setup, • "nis" - Network Information Service service setup
vserver-name		string optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **nis-binding-detail**

[top]

NIS domain show-bound-debug When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bound-server		string optional	Specifies the hostname/IP address of the NIS server in the domain. Attributes: key, non-creatable, non-modifiable
bound-status		string optional	Specifies the binding status of the NIS server. Attributes: non-creatable, non-modifiable
nis-domain		string optional	Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **nis-domain-show-bound**

[top]

NIS domain show-bound When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bound-servers		ip-address[] optional	Specifies the IP address of one or more bound NIS servers in the domain. Attributes: non-creatable, non-modifiable

nis-domain		string optional	Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **nss-db-type**

[top]

The type of Name Service database Possible values:

- "hosts" - Hosts Database,
- "group" - Group Database,
- "passwd" - Password Database,
- "netgroup" - Netgroup Database,
- "namemap" - Name mapping database

[none]

Element definition: **nss-source-type**

[top]

The type of Name Service source Possible values:

- "files" - Local File Name System service setup,
- "dns" - Domain Name System service setup,
- "ldap" - Lightweight Directory Access Protocol service setup,
- "nis" - Network Information Service service setup

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

[top]

Element definition: **vserver-name**

The name of the Vserver.

[none]

APIs in Category: **ndmp**

ndmp-node-session-info-get-iter
ndmp-node-session-kill
ndmp-node-session-kill-all
ndmp-password-generate
ndmp-vserver-attributes-get-iter
ndmp-vserver-attributes-modify
ndmp-vserver-service-disable
ndmp-vserver-service-enable
ndmp-vserver-session-info-get-iter
ndmp-vserver-session-kill
ndmp-vserver-session-kill-all

This set of APIs allow managing NDMP services

ndmp-node-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

Input Name	Range	Type	Description
desired-attributes		ndmp-node-session-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ndmp-node-session-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndmp-node-session-info[] optional	The list of attributes of ndmp objects.

next-tag		string optional	Tag for the next call. Not present when there are no more ndmp objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

ndmp-node-session-kill

[top]

Kill a NDMP session on a node

Input Name	Range	Type	Description
node-name		string	Name of the Node
session-id	**[0..2^32-1]**	integer	Session Identifier

Errno	Description
EOBJECTNOTFOUND	
EAPIMISSINGARGUMENT	
EINTERNALERROR	
EINVALIDINPUTERROR	

ndmp-node-session-kill-all

[top]

Kill all NDMP sessions on a node

Input Name	Range	Type	Description
node-name		string	Name of the Node

Errno	Description
EOBJECTNOTFOUND	
EAPIMISSINGARGUMENT	
EINTERNALERROR	
EINVALIDINPUTERROR	

ndmp-password-generate

[top]

Generate NDMP password for the given user in a specific Vserver context. The generated NDMP password is based on the actual login password for the user; hence it should be regenerated whenever the actual user password is changed.

Input Name	Range	Type	Description

desired-attributes		ndmp-password-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
user-name		string	The user for which the password is to be generated.

Output Name	Range	Type	Description
attributes		ndmp-password-info	The attributes of the ndmp-password.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EINVALIDQUERY	
EINVALIDPASSWORD	
EOPNOTSUPPORTED	

ndmp-vserver-attributes-get-iter

[top]

Get NDMP attributes for vserver.

Input Name	Range	Type	Description
desired-attributes		ndmp-vserver-attributes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ndmp-vserver-attributes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndmp-vserver-attributes-info[] optional	The list of attributes of ndmp objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ndmp objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	

ndmp-vserver-attributes-modify

[top]

Modify NDMP attributes for vserver.

Input Name	Range	Type	Description
abort-on-disk-error		boolean optional	Enable Abort on Disk Error
authtype		ndmpd-authtypes[] optional	Authentication Type Possible values: • "plaintext" - plaintext authtype, • "challenge" - challenge authtype, • "plaintext_sso" - plaintext_sso authtype
backup-log-enable		boolean optional	Enable Backup Log
data-port-range		string optional	Data Port Range
debug-enable		boolean optional	Enable Debug
debug-filter		string optional	Debug Filter
dump-detailed-stats		boolean optional	Enable Logging of VM Stats for Dump
dump-logical-find		string optional	Enable Logical Find for Dump
enable		boolean optional	Enable NDMP on Vserver
fh-dir-retry-interval	[0..2^32-1]	integer optional	FH Throttle Value for Dir
fh-node-retry-interval	[0..2^32-1]	integer optional	FH Throttle Value for Node
ignore-ctime-enabled		boolean optional	Ignore Ctime
is-secure-control-connection-enabled		boolean optional	Is Secure Control Connection Enabled
offset-map-enable		boolean optional	Enable Offset Map
per-qtree-exclude-enable		boolean optional	Enable per Qtree Exclusion
		netport-	Preferred Interface Role Possible values: • "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients,

preferred-interface-role		role[] optional	• "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
restore-vm-cache-size	**[0..2^32-1]**	integer optional	Restore VM File Cache Size
secondary-debug-filter		string optional	Secondary Debug Filter
tcpnodelay		boolean optional	Enable TCP Nodelay
tcpwinsize	**[0..2^32-1]**	integer optional	TCP Window Size

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

ndmp-vserver-service-disable

[top]

Disable NDMP service on the vserver. Disabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already disabled will not result in any errors.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

ndmp-vserver-service-enable

[top]

Enable NDMP service on the vserver. Enabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already enabled will not result in any errors.

Errno	Description
EINTERNALERROR	

EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

ndmp-vserver-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

Input Name	Range	Type	Description
desired-attributes		ndmp-vserver-session-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ndmp-vserver-session-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndmp-vserver-session-info[] optional	The list of attributes of ndmp objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ndmp objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	

ndmp-vserver-session-kill

[top]

Kill a NDMP session on a vserver

Input Name	Range	Type	Description
session-id		string	Session Identifier

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

ndmp-vserver-session-kill-all

[top]

Kill all NDMP sessions on a vserver

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

Element definition: **ndmp-node-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-addr		string optional	NDMP Client Address Attributes: non-creatable, non-modifiable
client-port	**[0..2^32-1]**	integer optional	NDMP Client Port Attributes: non-creatable, non-modifiable
data-backup-mode		string optional	Data Backup Mode Attributes: non-creatable, non-modifiable
data-bytes-processed	**[0..2^64-1]**	integer optional	Data Bytes Processed Attributes: non-creatable, non-modifiable
data-con-addr		string optional	Data Server Connect Address Attributes: non-creatable, non-modifiable
data-con-addr-		ndmpd-addr-	Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" ,

type		type optional	• "tcp" , • "fc" , • "ipc" , • "tcp_ipv6"
data-con-port	**[0..2^32-1]**	integer optional	Data Server Connect Port Attributes: non-creatable, non-modifiable
data-halt-reason		ndmpd-halt-reason optional	Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
data-operation		ndmpd-data-oper optional	Data Operation Attributes: non-creatable, non-modifiable Possible values: • "noaction" - None, • "backup" - Backup, • "restore" - Restore
data-path		string optional	Data Path Attributes: non-creatable, non-modifiable
data-state		ndmpd-state optional	Data State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
eff-host		ndmpd-host optional	Effective Host Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary, • "partner" - Partner
is-secure-control-connection		boolean optional	Is Secure Control Connection Attributes: non-creatable, non-modifiable
mover-bytes-left-to-read	**[0..2^64-1]**	integer optional	Mover Bytes Left to Read Attributes: non-creatable, non-modifiable
mover-bytes-moved	**[0..2^64-1]**	integer optional	Mover Bytes Moved Attributes: non-creatable, non-modifiable
mover-con-addr		string optional	Mover Connect Address Attributes: non-creatable, non-modifiable
mover-con-addr-type		ndmpd-addr-type optional	Mover Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , • "tcp" , • "fc" , • "ipc" , • "tcp_ipv6"

mover-con-port	**[0..2^32-1]**	integer optional	Mover Connect Port Attributes: non-creatable, non-modifiable
mover-halt-reason		ndmpd-halt-reason optional	Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
mover-mode		ndmpd-mover-mode optional	Mover Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw
mover-pause-reason		ndmpd-pause-reason optional	Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "eom" - End of media, • "eof" - End of file, • "seek" - Seek, • "media_error" - Media Error, • "eow" - End of window
mover-position	**[0..2^64-1]**	integer optional	Mover Position Attributes: non-creatable, non-modifiable
mover-record-num	**[0..2^64-1]**	integer optional	Mover Record Number Attributes: non-creatable, non-modifiable
mover-record-size	**[0..2^64-1]**	integer optional	Mover Record Size Attributes: non-creatable, non-modifiable
mover-seek-position	**[0..2^64-1]**	integer optional	Mover Seek Position Attributes: non-creatable, non-modifiable
mover-setrecordsize-flag		boolean optional	Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable
mover-setwindow-flag		boolean optional	Mover SetWindow Flag Attributes: non-creatable, non-modifiable
mover-state		ndmpd-state optional	Mover State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
mover-window-length	**[0..2^64-1]**	integer optional	Mover Window Length Attributes: non-creatable, non-modifiable
mover-window-offset	**[0..2^64-1]**	integer optional	Mover Window Offset Attributes: non-creatable, non-modifiable
ndmp-version	**[0..2^32-1]**	integer	NDMP Version Attributes: non-creatable, non-

		optional	modifiable
node-name		node-name optional	Name of the Node Attributes: key, non-creatable, non-modifiable
session-authorized		boolean optional	Session Authorized Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	Session Identifier Attributes: key, non-creatable, non-modifiable
source-addr		string optional	NDMP Source Address Attributes: non-creatable, non-modifiable
spt-device-id		string optional	SCSI Device ID Attributes: non-creatable, non-modifiable
spt-ha	**[-2^31..2^31-1]**	integer optional	SCSI Host Adapter Attributes: non-creatable, non-modifiable
spt-scsi-id	**[-2^31..2^31-1]**	integer optional	SCSI Target ID Attributes: non-creatable, non-modifiable
spt-scsi-lun	**[-2^31..2^31-1]**	integer optional	SCSI LUN ID Attributes: non-creatable, non-modifiable
tape-device		string optional	Tape Device Attributes: non-creatable, non-modifiable
tape-mode		ndmpd-mover-mode optional	Tape Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw

Element definition: **ndmp-password-info**

[top]

Information about generate password When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
password		string optional	The generated NDMP password for the given user. The command fails if such a user does not exist in the Vserver context. Attributes: non-creatable, non-modifiable
user-name		string optional	The user for which the password is to be generated. Attributes: key, non-creatable, non-modifiable
vserver-name		string optional	The Vserver on which the user password is to be generated for the given user. Attributes: key, non-creatable, non-modifiable

Element definition: **ndmp-vserver-attributes-info**

[top]

NDMP vserver attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
abort-on-disk-error		boolean optional	Enable Abort on Disk Error Attributes: non-creatable, modifiable
authtype		ndmpd-authtypes[] optional	Authentication Type Attributes: non-creatable, modifiable Possible values: • "plaintext" - plaintext authtype, • "challenge" - challenge authtype, • "plaintext_sso" - plaintext_sso authtype
backup-log-enable		boolean optional	Enable Backup Log Attributes: non-creatable, modifiable
data-port-range		string optional	Data Port Range Attributes: non-creatable, modifiable
debug-enable		boolean optional	Enable Debug Attributes: non-creatable, modifiable
debug-filter		string optional	Debug Filter Attributes: non-creatable, modifiable
dump-detailed-stats		boolean optional	Enable Logging of VM Stats for Dump Attributes: non-creatable, modifiable
dump-logical-find		string optional	Enable Logical Find for Dump Attributes: non-creatable, modifiable
enable		boolean optional	Enable NDMP on Vserver Attributes: non-creatable, modifiable
fh-dir-retry-interval	**[0..2^32-1]**	integer optional	FH Throttle Value for Dir Attributes: non-creatable, modifiable
fh-node-retry-interval	**[0..2^32-1]**	integer optional	FH Throttle Value for Node Attributes: non-creatable, modifiable
ignore-ctime-enabled		boolean optional	Ignore Ctime Attributes: non-creatable, modifiable
is-secure-control-connection-enabled		boolean optional	Is Secure Control Connection Enabled Attributes: non-creatable, modifiable
maxversion	**[0..2^32-1]**	integer optional	NDMP Version Attributes: non-creatable, non-modifiable
offset-map-enable		boolean optional	Enable Offset Map Attributes: non-creatable, modifiable
per-qtree-exclude-enable		boolean optional	Enable per Qtree Exclusion Attributes: non-creatable, modifiable
			Preferred Interface Role Attributes: non-creatable, modifiable Possible values: • "undef" - No defined role,

preferred-interface-role		netport-role[] optional	"cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
restore-vm-cache-size	**[0..2^32-1]**	integer optional	Restore VM File Cache Size Attributes: non-creatable, modifiable
secondary-debug-filter		string optional	Secondary Debug Filter Attributes: non-creatable, modifiable
tcpnodelay		boolean optional	Enable TCP Nodelay Attributes: non-creatable, modifiable
tcpwinsize	**[0..2^32-1]**	integer optional	TCP Window Size Attributes: non-creatable, modifiable
vserver-name		vserver-name-data-admin optional	Name of the Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ndmp-vserver-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-addr		string optional	NDMP Client Address Attributes: non-creatable, non-modifiable
client-port	**[0..2^32-1]**	integer optional	NDMP Client Port Attributes: non-creatable, non-modifiable
data-backup-mode		string optional	Data Backup Mode Attributes: non-creatable, non-modifiable
data-bytes-processed	**[0..2^64-1]**	integer optional	Data Bytes Processed Attributes: non-creatable, non-modifiable
data-con-addr		string optional	Data Server Connect Address Attributes: non-creatable, non-modifiable
data-con-addr-type		ndmpd-addr-type optional	Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , • "tcp" , • "fc" , • "ipc" ,

			• "tcp_ipv6"
data-con-port	**[0..2^32-1]**	integer optional	Data Server Connect Port Attributes: non-creatable, non-modifiable
data-halt-reason		ndmpd-halt-reason optional	Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
data-operation		ndmpd-data-oper optional	Data Operation Attributes: non-creatable, non-modifiable Possible values: • "noaction" - None, • "backup" - Backup, • "restore" - Restore
data-path		string optional	Data Path Attributes: non-creatable, non-modifiable
data-state		ndmpd-state optional	Data State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
eff-host		ndmpd-host optional	Effective Host Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary, • "partner" - Partner
is-secure-control-connection		boolean optional	Is Secure Control Connection Attributes: non-creatable, non-modifiable
mover-bytes-left-to-read	**[0..2^64-1]**	integer optional	Mover Bytes Left to Read Attributes: non-creatable, non-modifiable
mover-bytes-moved	**[0..2^64-1]**	integer optional	Mover Bytes Moved Attributes: non-creatable, non-modifiable
mover-con-addr		string optional	Mover Connect Address Attributes: non-creatable, non-modifiable
mover-con-addr-type		ndmpd-addr-type optional	Mover Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , • "tcp" , • "fc" , • "ipc" , • "tcp_ipv6"
mover-con-port	**[0..2^32-1]**	integer optional	Mover Connect Port Attributes: non-creatable, non-modifiable

mover-halt-reason		ndmpd-halt-reason optional	Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
mover-mode		ndmpd-mover-mode optional	Mover Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw
mover-pause-reason		ndmpd-pause-reason optional	Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "eom" - End of media, • "eof" - End of file, • "seek" - Seek, • "media_error" - Media Error, • "eow" - End of window
mover-position	**[0..2^64-1]**	integer optional	Mover Position Attributes: non-creatable, non-modifiable
mover-record-num	**[0..2^64-1]**	integer optional	Mover Record Number Attributes: non-creatable, non-modifiable
mover-record-size	**[0..2^64-1]**	integer optional	Mover Record Size Attributes: non-creatable, non-modifiable
mover-seek-position	**[0..2^64-1]**	integer optional	Mover Seek Position Attributes: non-creatable, non-modifiable
mover-setrecordsize-flag		boolean optional	Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable
mover-setwindow-flag		boolean optional	Mover SetWindow Flag Attributes: non-creatable, non-modifiable
mover-state		ndmpd-state optional	Mover State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
mover-window-length	**[0..2^64-1]**	integer optional	Mover Window Length Attributes: non-creatable, non-modifiable
mover-window-offset	**[0..2^64-1]**	integer optional	Mover Window Offset Attributes: non-creatable, non-modifiable
ndmp-version	**[0..2^32-1]**	integer optional	NDMP Version Attributes: non-creatable, non-modifiable
node-name		node-name optional	Name of the Node Attributes: non-creatable, non-modifiable

session-authorized		boolean optional	Session Authorized Attributes: non-creatable, non-modifiable
session-id		string optional	Session Identifier Attributes: key, non-creatable, non-modifiable
source-addr		string optional	NDMP Source Address Attributes: non-creatable, non-modifiable
spt-device-id		string optional	SCSI Device ID Attributes: non-creatable, non-modifiable
spt-ha	**[-2^31..2^31-1]**	integer optional	SCSI Host Adapter Attributes: non-creatable, non-modifiable
spt-scsi-id	**[-2^31..2^31-1]**	integer optional	SCSI Target ID Attributes: non-creatable, non-modifiable
spt-scsi-lun	**[-2^31..2^31-1]**	integer optional	SCSI LUN ID Attributes: non-creatable, non-modifiable
tape-device		string optional	Tape Device Attributes: non-creatable, non-modifiable
tape-mode		ndmpd-mover-mode optional	Tape Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw
vserver-name		vserver-name optional	Name of the Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ndmpd-authtypes**

[top]

NDMP Authentication types Possible values:

- "plaintext" - plaintext authtype,
- "challenge" - challenge authtype,
- "plaintext_sso" - plaintext_sso authtype

[none]

Element definition: **netport-role**

[top]

undef|cluster|data|node-mgmt|intercluster|cluster-mgmt Possible values:

- "undef" - No defined role,
- "cluster" - Used for communication using the private cluster network,
- "data" - Used for communicating with file service clients,
- "node_mgmt" - Used by administrators to configure the node,
- "intercluster" - Used for communication with a different cluster,
- "cluster_mgmt" - Used by administrators to configure the cluster

[none]

Element definition: **ndmpd-addr-type**

[top]

address type Possible values:

- "local" ,
- "tcp" ,
- "fc" ,
- "ipc" ,
- "tcp_ipv6"

[none]

Element definition: **ndmpd-data-oper**

[top]

data operation Possible values:

- "noaction" - None,
- "backup" - Backup,
- "restore" - Restore

[none]

Element definition: **ndmpd-halt-reason**

[top]

halt reason Possible values:

- "na" - Not Available,
- "connection_closed" - Connection Closed,
- "aborted" - Aborted,
- "internal_error" - Internal Error,
- "connect_error" - Connect Error,
- "media_error" - Media Error,
- "successful" - Successful

[none]

Element definition: **ndmpd-host**

[top]

host type Possible values:

- "primary" - Primary,
- "partner" - Partner

[none]

Element definition: **ndmpd-mover-mode**

[top]

mover mode Possible values:

- "read" - Read,
- "write" - Write,
- "noaction" - Data,
- "raw" - Raw

[none]

Element definition: **ndmpd-pause-reason**

[top]

pause reason Possible values:

- "na" - Not Available,
- "eom" - End of media,
- "eof" - End of file,
- "seek" - Seek,
- "media_error" - Media Error,
- "eow" - End of window

[none]

Element definition: **ndmpd-state**

[top]

component state Possible values:

- "idle" - Idle,
- "listen" - Listen,
- "active" - Active,
- "paused" - Paused,
- "connected" - Connected,
- "halted" - Halted

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

APIs in Category: **net**

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data-lif-capacity-details
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net-active-routes-get-iter
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net-arp-active-entry-get-iter
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net-bgp-config-get
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net-ddns-get-iter
net-ddns-modify
net-device-discovery-get-iter
net-dns-check-get-iter
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The net APIs provide network management from ONTAP.

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net-ndp-active-neighbor-get-iter
net-ndp-default-router-delete-all
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net-ndp-default-router-get-iter
net-ndp-neighbor-create
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net-port-broadcast-domain-modify
net-port-broadcast-domain-remove-ports
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net-port-health-monitor-get
net-port-health-monitor-get-iter
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net-port-ifgrp-create
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net-port-ifgrp-get
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net-port-modify
net-port-modify-iter
net-qos-marking-get-iter
net-qos-marking-modify
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net-routes-lifs-get-iter
net-san-lif-placement-get
net-subnet-add-ranges
net-subnet-create
net-subnet-destroy
net-subnet-get
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net-subnet-modify
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net-subnets-for-

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net-traceroute6
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net-tuning-icmp-modify
net-tuning-icmp6-get
net-tuning-icmp6-modify
net-tuning-tcp-get
net-tuning-tcp-modify
net-vip-port-create
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net-vlan-delete
net-vlan-get
net-vlan-get-iter

data-lif-capacity

[top]

Get the IP data LIF capacity of the cluster.

Input Name	Range	Type	Description
desired-attributes		data-lif-capacity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		data-lif-capacity-info	The attributes of the net.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

data-lif-capacity-details

[top]

Get the IP data LIF capacity details for each node.

Input Name	Range	Type	Description
		data-lif-capacity-	Specify the attributes that should be returned. If not present, all

desired-attributes		details-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		data-lif-capacity-details-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		data-lif-capacity-details-info[] optional	The list of attributes of net objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-active-routes-get

[top]

Get the attributes of the network route active-entry.

Input Name	Range	Type	Description
address-type		ipaddresstype	Specify the address type. Possible values are ipv4 and ipv6. Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
desired-attributes		net-active-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		string	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		string	Specify the gateway. Example: 10.7.125.1, fd20:13::1
interface		string	Specify the route's interface.
node-name		node-name	Specify the name of the node.

route-interface-address		string	Specify the Route Interface Address.
subnet-group		ip-and-mask	Specify the name of the subnet group.

Output Name	Range	Type	Description
attributes		net-active-routes-info	The attributes of the network route active-entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-active-routes-get-iter

[top]

Iterate over a list of network route active-entry objects.

Input Name	Range	Type	Description
desired-attributes		net-active-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-active-routes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network route active-entry object. All network route active-entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-active-routes-info[] optional	The list of attributes of network route active-entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network route active-entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-arp-active-entry-destroy

[top]

Delete dynamically learned ARP entries.

Input Name	Range	Type	Description
node-name		node-name	Node from which to remove the ARP active entry.
port		string	Port from which to remove the ARP active entry.
remotehost		string	Remote IP address which will be removed from the ARP active entry table.
subnet-group-name		ip-and-mask	Subnet group from which to remove the ARP active entry.
vserver-name		vif-owner-name	System or Admin Vserver from which to remove the ARP active entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-active-entry-get

[top]

Get the attributes of the network ARP active entry which is present in network stack of the node.

Input Name	Range	Type	Description
desired-attributes		net-arp-operational-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	Node from which to get the ARP active entry.
port		string	Port name for which to get the ARP active entry.
remote-host		string	Remote IP address for which to get the ARP active entry.
subnet-group		ip-and-mask	Subnet group from which to get the ARP active entry.
vserver		vif-owner-name	System or Admin Vserver from which to get the ARP active entry.

Output Name	Range	Type	Description
attributes		net-arp-operational-info	The attributes of the network ARP active-entry
ipspace		string	IPspace from which to get the ARP active entry.
mac-address		string	MAC address of remote host.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-active-entry-get-iter

[top]

Iterate over a list of network ARP active entries.

Input Name	Range	Type	Description
desired-attributes		net-arp-operational-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-arp-operational-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ARP active-entry object. All network ARP active-entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-arp-operational-info[] optional	The list of attributes of network ARP active-entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ARP active-entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-arp-create

[top]

Create a new network ARP entry.

Input Name	Range	Type	Description
mac		mac-address	MAC address of remote host.
remotehost		ip-address	Remote IP address which is to be added as the ARP entry.
vserver		vserver-name	Vserver in which to create the ARP entry.

Errno	Description
EINTERNALERROR	

net-arp-destroy

[top]

Delete an existing network ARP entry.

Input Name	Range	Type	Description
remotehost		ip-address	Remote IP address which is to be deleted from the ARP entries.
vserver		vserver-name	Vserver in which to delete the ARP entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-get

[top]

Get the attributes of the network ARP entry which is present in Vserver.

Input Name	Range	Type	Description
desired-attributes		net-arp-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
remotehost		ip-address	Remote IP address for which to get the ARP entry.
vserver		vserver-name	Vserver from which to get the ARP entry.

Output Name	Range	Type	Description
attributes		net-arp-info	The attributes of the network ARP
ipspace		string optional	IPspace from which to get the ARP entry.
mac		mac-address	MAC address of remote host.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-get-iter

[top]

Iterate over a list of network ARP entries.

Input Name	Range	Type	Description
desired-attributes		net-arp-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
			A query that specifies which objects to return. A query could be

query		net-arp-info optional	specified on any number of attributes in the network ARP object. All network ARP objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-arp-info[] optional	The list of attributes of network ARP objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ARP objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-bgp-config-create

[top]

Create the BGP configuration for a given node.

Input Name	Range	Type	Description
asn	**[0..2^32-1]**	integer	The autonomous system number to which this node belongs.
hold-time	**[0..2^32-1]**	integer	The hold time (seconds) value to use for this node when negotiating a connection with the peer.
node		node-name	The node name that the BGP configuration belongs to.
return-record		boolean optional	If set to true, returns the net-bgp-config on successful creation. Default: false
router-id		ip-address	The router id (IPv4) to use for this node when negotiating a connection with the peer.

Output Name	Range	Type	Description
result		net-bgp-config-info optional	The net-bgp-config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
E_NO_VALID_ROUTERID	
E_BGP_DEFAULTS_NOT_POPULATED	
E_VIP_NOT_SUPPORTED	

net-bgp-config-destroy

[top]

Delete the BGP configuration on a given node.

Input Name	Range	Type	Description
node		node-name	The node name that the BGP configuration belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-config-get

[top]

Get the BGP configuration for a node.

Input Name	Range	Type	Description
desired-attributes		net-bgp-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The node name that the BGP configuration belongs to.

Output Name	Range	Type	Description
attributes		net-bgp-config-info	The attributes of the net-bgp-config.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-config-get-iter

[top]

Iterate over the BGP configuration for each node.

Input Name	Range	Type	Description
desired-attributes		net-bgp-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		net-bgp-	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-config object.

query		config-info optional	All net-bgp-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-bgp-config-info[] optional	The list of attributes of net-bgp-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-bgp-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-bgp-config-modify

[top]

Modify BGP configuration for a given node.

Input Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The autonomous system number to which this node belongs.
hold-time	**[0..2^32-1]**	integer optional	The hold time (seconds) value to use for this node when negotiating a connection with the peer.
node		node-name	The node name that the BGP configuration belongs to.
router-id		ip-address optional	The router id (IPv4) to use for this node when negotiating a connection with the peer.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-defaults-get

[top]

Get the cluster wide default BGP configuration.

Input Name	Range	Type	Description
desired-attributes		net-bgp-defaults-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be

		optional	returned.

Output Name	Range	Type	Description
attributes		net-bgp-defaults-info	The attributes of the net-bgp-defaults.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-defaults-modify

[top]

Modify the cluster wide default BGP configuration.

Input Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The cluster wide default value for autonomous system number.
hold-time	**[0..2^32-1]**	integer optional	The cluster wide default value for routing information hold time (seconds).

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-peer-group-create

[top]

Create a new BGP peer group.

Input Name	Range	Type	Description
bgp-lif		lif-name	The LIF associated with this peer group.
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-address		ip-address	The remote peer router address.
peer-asn	**[0..2^32-1]**	integer	The remote peer router Autonomous number. The default value for this paramenter is '0'.
peer-group		string	The name of the peer group.
route-preference	**[0..2^32-1]**	integer	The route preference value associated with this peer group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
E_VIFMGR_BGP_NOT_CONFIGURED	
E_VIFMGR_VSERVER_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	

net-bgp-peer-group-destroy

[top]

Destroy an existing BGP peer group.

Input Name	Range	Type	Description
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-group		string	The name of the peer group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	

net-bgp-peer-group-get

[top]

Get the attributes of the peer group.

Input Name	Range	Type	Description
desired-attributes		net-bgp-peer-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-group		string	The name of the peer group.

Output Name	Range	Type	Description
attributes		net-bgp-peer-group-info	The attributes of the net-bgp-peer-group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EOBJECTNOTFOUND	
EINTERNALERROR	

net-bgp-peer-group-get-iter

[top]

Iterate over a list of BGP peer groups

Input Name	Range	Type	Description

desired-attributes		net-bgp-peer-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-bgp-peer-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-peer-group object. All net-bgp-peer-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-bgp-peer-group-info[] optional	The list of attributes of net-bgp-peer-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-bgp-peer-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	

net-bgp-peer-group-modify

[top]

Modify the attributes of the BGP peer group.

Input Name	Range	Type	Description
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-address		ip-address	The remote peer router address.
peer-group		string	The name of the peer group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
E_VIFMGR_VSERVER_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	

net-bgp-peer-group-rename

[top]

Rename a BGP peer group.

Input Name	Range	Type	Description
ipspace		string	Name of the IPspace that the peer group belongs to.
new-name		string	New name for the BPG peer group
peer-group		string	The name of the peer group.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_PEER_GROUP_NOT_FOUND	
E_VIFMGR_PEER_GROUP_RENAME_ENTRY_EXISTS	

net-bgp-vserver-status-get

[top]

Get BGP status of a Vserver on a given node.

Input Name	Range	Type	Description
desired-attributes		bgp-vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
vserver		vserver-name	Vserver

Output Name	Range	Type	Description
attributes		bgp-vserver-info	The attributes of the net-bgp-vserver-status.

Errno	Description
EOBJECTNOTFOUND	

net-bgp-vserver-status-get-iter

[top]

Iterate over BGP Vservers status.

Input Name	Range	Type	Description
		bgp-	Specify the attributes that should be returned. If not present, all

desired-attributes		vserver-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		bgp-vserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-vserver-status object. All net-bgp-vserver-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		bgp-vserver-info[] optional	The list of attributes of net-bgp-vserver-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-bgp-vserver-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	

net-check-failover

[top]

Get the list of LIFs at risk.

Input Name	Range	Type	Description
desired-attributes		lif-capacity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lif-capacity-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned.
source-nodes		filer-id[]	This is a list of nodes whose LIFs should be checked. LIFs considered at risk will be currently hosted on one of these nodes. This list should contain at most half the nodes in the cluster.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		lif-capacity-	The list of attributes of net objects.

list		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more net objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
E_NET_UI_VIFMGR_NOT_INITIALIZED	

net-cluster-ping

[top]

Ping an IP address to verify whether the interface is alive

Input Name	Range	Type	Description
destination-address		string	Specifies IPv4 address of the destination.
interface		string optional	Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is mutually exclusive with element node.
interface-owner		string optional	Specifies the name of the owning vserver of the logical interface (LIF).
node		string optional	Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif.
retry-count		integer optional	Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20
services		lif-service-name[] optional	Specifies the list of service names to ping from the perspective of a specific application
use-source-port		boolean optional	Specifies whether to send out ping via the port which is hosting the lif. Only applicable when lif parameter when specified. Default: false
wait		integer optional	Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1
wait-response		integer optional	Specifies the maximum number of milliseconds to wait for each ping response. Default: 10000 (10 secs)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_EHOSTDOWN	
EHOSTNOTFOUND	

net-cluster-ping6

[top]

Ping an IPv6 address to verify whether the interface is alive

Input Name	Range	Type	Description
buffer-size		integer optional	Specifies the socket buffer size in bytes.
destination-address		string	Specifies IPv6 address of the destination.
disable-fragmentation		boolean optional	Disallow fragmentation of the outgoing packets.
disable-fragmentation-all		boolean optional	Fragment packets to fit into the minimum IPv6 maximum transmission unit size for both unicast and multicast addresses.
disable-fragmentation-unicast		boolean optional	Fragment packets to fit into the minimum IPv6 maximum transmission unit size for unicast addresses.
interface		string optional	Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is optional with element node.
interface-owner		string optional	Specifies the name of logical interface (LIF) owner or vserver. It may be a node or Vserver name.
interval		integer optional	Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1
node		string optional	Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif.
packet-size		integer optional	Specifies the packet size in bytes.
retry-count		integer optional	Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20
use-source-port		boolean optional	Specifies whether to send out ping6 via the port which is hosting the lif. Only applicable when lif parameter is specified. Default: false

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_EHOSTDOWN	
ENETUNREACH	
EHOSTNOTFOUND	
EINVALIDHOST	
EHOST_BADCONFIGURE	

net-connections-receive-window-size-get

[top]

Get the receive buffer size properties of a service

Input Name	Range	Type	Description
desired-attributes		receive-buffer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

network		network-type	The network topology classification Possible values: • "wan" , • "lan" , • "undefined"
protocol		protocol-layer4	The network layer 4 protocol type Possible values: • "udp" - UDP, • "tcp" - TCP, • "na" - not_available
service		stream-protocol-service	The stream protocol connection classification Possible values: • "mount" - Mount stream protocol, • "nfs" - NFS stream protocol, • "nfs_v3" - NFS version 3 stream protocol, • "nlm_v4" - Network lock manager stream protocol, • "sm" - Session Manager stream protocol, • "ftp_ctrl" - FTP control stream protocol, • "ftp_data" - FTP data stream protocol, • "http_1_0" - HTTP version 1 stream protocol, • "http_1_1" - HTTP version 1.1 stream protocol, • "iscsi" - ISCSI stream protocol, • "cifs_srv" - CIFS server stream protocol, • "cifs_nam" - CIFS name server stream protocol, • "loopback" - loopback stream protocol, • "rf" - RC stream protocol, • "rawscp" - Raw secure copy stream protocol, • "discard" - Discard stream protocol, • "port_map" - Port map stream protocol, • "pass_thru" - Passthru stream protocol, • "rclopcp" - Rc connection stream protocol, • "nfs_v4" - NFS version 4 stream protocol, • "fcache" - 7 Mode FlexCache stream protocol, • "ctlopcp" - Ct connection stream protocol, • "rquota" - Rquota stream protocol, • "cifs_msrpc" - CIFS MsRpc stream protocol, • "http" - HTTP stream protocol, • "unknown" - unknown protocol, • "s3" - S3 stream protocol, • "sdapi" - SDAPI stream protocol

Output Name	Range	Type	Description
attributes		receive-buffer	The attributes of the net-connections-receive-window-size.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-connections-receive-window-size-get-iter

[top]

Iterate over connections returning receive buffer size properties

Input Name	Range	Type	Description
desired-attributes		receive-buffer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		receive-buffer optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-connections-receive-window-size object. All net-connections-receive-window-size objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		receive-buffer[] optional	The list of attributes of net-connections-receive-window-size objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-connections-receive-window-size objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-connections-receive-window-size-modify

[top]

Modify receive buffer size properties

Input Name	Range	Type	Description
network		network-type	The network topology classification Possible values: • "wan" , • "lan" , • "undefined"
protocol		protocol-layer4	The network layer 4 protocol type Possible values: • "udp" - UDP, • "tcp" - TCP, • "na" - not_available
receive-auto-tune		boolean optional	If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases.
receive-buffer	**[256..7168]**	integer optional	If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases.
			The stream protocol connection classification Possible values:

service		stream-protocol-service	• "mount" - Mount stream protocol, • "nfs" - NFS stream protocol, • "nfs_v3" - NFS version 3 stream protocol, • "nlm_v4" - Network lock manager stream protocol, • "sm" - Session Manager stream protocol, • "ftp_ctrl" - FTP control stream protocol, • "ftp_data" - FTP data stream protocol, • "http_1_0" - HTTP version 1 stream protocol, • "http_1_1" - HTTP version 1.1 stream protocol, • "iscsi" - ISCSI stream protocol, • "cifs_srv" - CIFS server stream protocol, • "cifs_nam" - CIFS name server stream protocol, • "loopback" - loopback stream protocol, • "rf" - RC stream protocol, • "rawscp" - Raw secure copy stream protocol, • "discard" - Discard stream protocol, • "port_map" - Port map stream protocol, • "pass_thru" - Passthru stream protocol, • "rclopcp" - Rc connection stream protocol, • "nfs_v4" - NFS version 4 stream protocol, • "fcache" - 7 Mode FlexCache stream protocol, • "ctlopcp" - Ct connection stream protocol, • "rquota" - Rquota stream protocol, • "cifs_msrpc" - CIFS MsRpc stream protocol, • "http" - HTTP stream protocol, • "unknown" - unknown protocol, • "s3" - S3 stream protocol, • "sdapi" - SDAPI stream protocol

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ddns-get

[top]

Get the Dynamic DNS Update configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		net-ddns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		net-ddns-info	The attributes of the ddns.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ddns-get-iter

[top]

Iterate through Dynamic DNS Update configurations of the cluster

Input Name	Range	Type	Description
desired-attributes		net-ddns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ddns-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ddns object. All ddns objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ddns-info[] optional	The list of attributes of ddns objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ddns objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ddns-modify

[top]

Modify the Dynamic DNS Update configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
domain-name		string optional	Vserver FQDN to Be Used for DNS Updates
is-enabled		boolean optional	Is Dynamic DNS Update Enabled?
skip-fqdn-validation		boolean optional	Specifies if the Vserver FQDN name validation is skipped.
ttl		time-interval optional	TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h.
use-secure		boolean optional	Use Secure Dynamic DNS Updates?

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-device-discovery-get-iter

[top]

Iterate over a list of network device discovery objects found by a discovery protocol such as CDP or LLDP.

Input Name	Range	Type	Description
desired-attributes		net-device-discovery-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-device-discovery-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-device-discovery object. All net-device-discovery objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-device-discovery-info[] optional	The list of attributes of net-device-discovery objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-device-discovery objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-dns-check-get-iter

[top]

Display the status of a list of name servers

Input Name	Range	Type	Description
			Specify the attributes that should be returned. If not present, all

desired-attributes		dns-status optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		dns-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dns-check object. All dns-check objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		dns-status[] optional	The list of attributes of dns-check objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dns-check objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
E_DNS_VSERVER_OPSTATE_STOPPED	

net-dns-create

[top]

Creates DNS configuration for a Vserver

Input Name	Range	Type	Description
attempts	**[1..4]**	integer optional	Max number of trials before giving up and returning error. Default is one.
dns-state		enable optional	Enable/Disable DNS. Possible values are 'enabled' or 'disabled'.
domains		string[]	List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to.
is-tld-query-enabled		boolean optional	Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true.
name-servers		ip-address[]	IPv4 addresses of name servers such as '123.123.123.123'.
require-packet-query-match		boolean optional	Require query sections of query and response packets to match.
require-source-address-match		boolean optional	Require source IP address of reply to match the name-server address.
return-record		boolean optional	If set to true, returns the dns on successful creation. Default: false

skip-config-validation		boolean optional	Skip Configuration Validation
timeout	**[1..5]**	integer optional	Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds.

Output Name	Range	Type	Description
result		net-dns-info optional	The dns created (keys or the entire object if requested)

Errno	Description
EDUPLICATEENTRY	
E_DNS_CONFIG_CHECK_FAILURE	
E_DNS_STATE_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-dns-get

[top]

Get the DNS configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		net-dns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		net-dns-info	The attributes of the dns.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-dns-get-iter

[top]

Iterate through DNS configurations of the cluster

Input Name	Range	Type	Description
desired-attributes		net-dns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		net-dns-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dns object. All dns objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-dns-info[] optional	The list of attributes of dns objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dns objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-dns-modify

[top]

Modify the DNS configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
attempts	**[1..4]**	integer optional	Max number of trials before giving up and returning error. Default is one.
dns-state		enable optional	Enable/Disable DNS. Possible values are 'enabled' or 'disabled'.
domains		string[] optional	List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to.
is-tld-query-enabled		boolean optional	Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true.
name-servers		ip-address[] optional	IPv4 addresses of name servers such as '123.123.123.123'.
require-packet-query-match		boolean optional	Require query sections of query and response packets to match.
require-source-address-match		boolean optional	Require source IP address of reply to match the name-server address.
skip-config-validation		boolean optional	Skip Configuration Validation
timeout	**[1..5]**	integer optional	Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds.

Errno	Description
E_DNS_CONFIG_CHECK_FAILURE	
E_DNS_STATE_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	

Errno	Description
EVSERVER_OPERATION_NOT_PERMITTED	

net-external-route-table-create

[top]

Create a new external routing table

Input Name	Range	Type	Description
return-record		boolean optional	If set to true, returns the network cloud routing-table on successful creation. Default: false
route-table-id		string	Route Table ID

Output Name	Range	Type	Description
result		external-route-table-info optional	The network cloud routing-table created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

net-external-route-table-delete

[top]

Delete an existing external routing table

Input Name	Range	Type	Description
route-table-id		string	Route Table ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-failover-group-add-targets

[top]

Add failover targets to a failover group.

Input Name	Range	Type	Description
failover-group		string	The failover group.
targets		net-qualified-port-name[]	The failover targets to add to the failover group. Format: node-name:port-name
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description

EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

net-failover-group-create

[top]

Create a failover group. Failover groups are used to define a set of possible failover targets for LIFs on one or more nodes.

Input Name	Range	Type	Description
failover-group		string	The failover group.
return-record		boolean optional	If set to true, returns the Failover Group on successful creation. Default: false
targets		net-qualified-port-name[]	The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name
vserver		vif-owner-name	The vserver for which the failover group is defined.

Output Name	Range	Type	Description
result		net-failover-group-info optional	The Failover Group created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	

net-failover-group-destroy

[top]

Delete a failover group

Input Name	Range	Type	Description
failover-group		string	The failover group.
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

net-failover-group-get

[top]

Get the attributes of a failover goup.

Input Name	Range	Type	Description
desired-attributes		net-failover-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
failover-group		string	The failover group.

Output Name	Range	Type	Description
attributes		net-failover-group-info	The attributes of the Failover Group.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-failover-group-get-iter

[top]

Iterate over a list of failover group objects.

Input Name	Range	Type	Description
desired-attributes		net-failover-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-failover-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Failover Group object. All Failover Group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-failover-group-info[] optional	The list of attributes of Failover Group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Failover Group objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-failover-group-modify

[top]

Modify a failover group.

Input Name	Range	Type	Description
failover-group		string	The failover group.
targets		net-qualified-port-name[] optional	The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

net-failover-group-remove-targets

[top]

Remove failover targets from a failover group.

Input Name	Range	Type	Description
failover-group		string	The failover group.
targets		net-qualified-port-name[]	The failover targets to remove from the failover group. Format: node-name:port-name

vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

net-failover-group-rename

[top]

Rename a failover group.

Input Name	Range	Type	Description
failover-group		node-name	The failover group.
new-failover-group-name		string	The new name of the failover group.
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EINTERNALERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	

net-firewall-config-get

[top]

Get the attributes of a firewall configuration.

Input Name	Range	Type	Description
desired-attributes		net-firewall-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	Specifies the node on which the firewall configiration is set.

Output Name	Range	Type	Description
attributes		net-firewall-config-info	The attributes of the firewall configuration.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-config-get-iter

[top]

Iterate over a list of firewall configuration objects.

Input Name	Range	Type	Description
desired-attributes		net-firewall-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-firewall-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall configuration object. All firewall configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-firewall-config-info[] optional	The list of attributes of firewall configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more firewall configuration objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-config-modify

[top]

Create a new firewall configuration.

Input Name	Range	Type	Description
		boolean	Specifies whether firewall protection is enabled (true) or disabled (false)

is-enabled		optional	for the node's network ports. The default setting is true.
is-logging		boolean optional	This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false.
node-name		node-name	Specifies the node on which the firewall configiration is set.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-config-modify-iter

[top]

Modify the attributes of a firewall configuration or a group of firewall configuration objects.

Input Name	Range	Type	Description
attributes		net-firewall-config-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple firewall configuration objects match a given query. If set to true, the API will continue modifying the next matching firewall configuration even when modification of a previous firewall configuration fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching firewall configuration even when the modification of a previous matching firewall configuration fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		net-firewall-config-info	If modifying a specific firewall configuration, this input element must specify all keys. If modifying firewall configuration objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of firewall configuration objects (just keys) that were not modified due to some error. If set to false, the list of firewall configuration objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of firewall configuration objects (just keys) that were successfully updated. If set to false, the list of firewall configuration objects modified will not be returned. Default: true

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		net-firewall-config-modify-iter-info[] optional	Information about firewall configuration objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching firewall configuration objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of firewall configuration objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of firewall configuration objects that matched the query and were successfully updated.
success-list		net-firewall-config-modify-iter-info[] optional	The firewall configuration objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-policy-create

[top]

Create a new firewall policy

Input Name	Range	Type	Description
allow-list		ip-and-mask[]	Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format:
policy		string	Specifies the name of the firewall policy
return-record		boolean optional	If set to true, returns the firewall policy on successful creation. Default: false
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol',

			• 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',
vserver		vserver-name	Specifies the name of the vserver on which the firewall policy is defined.

Output Name	Range	Type	Description
result		net-firewall-policy-info optional	The firewall policy created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-firewall-policy-destroy

[top]

Destroy an existing firewall policy

Input Name	Range	Type	Description
policy		string	Specifies the name of the firewall policy
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',
vserver		vserver-name	Specifies the name of the vserver on which the firewall policy is defined.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-firewall-policy-get

[top]

Get the attributes of a firewall policy.

Input Name	Range	Type	Description
desired-attributes		net-firewall-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	Specifies the name of the firewall policy
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',

Output Name	Range	Type	Description
attributes		net-firewall-policy-info	The attributes of the firewall policy.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-firewall-policy-get-iter

[top]

Iterate over a list of firewall policy objects.

Input Name	Range	Type	Description
desired-attributes		net-firewall-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		net-firewall-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall policy object. All firewall policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-firewall-policy-info[] optional	The list of attributes of firewall policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more firewall policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-firewall-policy-modify

[top]

Modify an existing firewall policy.

Input Name	Range	Type	Description
allow-list		ip-and-mask[] optional	Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format:
policy		string	Specifies the name of the firewall policy
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',
vserver		vserver-name	Specifies the name of the vserver on which the firewall policy is defined.

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-hosts-create

[top]

Create a new IP to host names mapping

Input Name	Range	Type	Description
aliases		string[] optional	The list of aliases such as 'host1.sales.foo.com'.
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.
hostname		string	Canonical hostname in a simple string or in FQDN
return-record		boolean optional	If set to true, returns the hosts on successful creation. Default: false

Output Name	Range	Type	Description
result		hosts-info optional	The hosts created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-hosts-destroy

[top]

Delete an existing hosts object.

Input Name	Range	Type	Description
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-hosts-get

[top]

Given an IP address, return the corresponding IP to host names mapping of the running Vserver context

Input Name	Range	Type	Description
desired-attributes		hosts-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.

Output Name	Range	Type	Description
attributes		hosts-info	The attributes of the hosts.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-hosts-get-iter

[top]

Iterate all IP to host name mappings (over all Vserver) of the cluster

Input Name	Range	Type	Description
desired-attributes		hosts-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		hosts-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the hosts object. All hosts objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		hosts-info[] optional	The list of attributes of hosts objects.
next-tag		string optional	Tag for the next call. Not present when there are no more hosts objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-hosts-modify

[top]

Given an IP address, modify the corresponding IP to host name mapping. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
aliases		string[] optional	The list of aliases such as 'host1.sales.foo.com'.
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.
hostname		string optional	Canonical hostname in a simple string or in FQDN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-create

[top]

Create a new logical interface.

Input Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP.
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down',
comment		string optional	Comment
data-protocols		data-protocol[] optional	Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Possible values: • "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols.,

			• "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF.
failover-group		failover-group optional	Specifies the failover group name.
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'.
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt', • 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster'
force-subnet-association		boolean optional	Force the LIF's Subnet Association
home-node		string optional	Specifies the LIF's home node.
home-port		string optional	Specifies the LIF's home port.
interface-name		string	Specifies the logical interface (LIF) name.
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level
is-ipv4-link-local		boolean optional	If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true.
is-vip		boolean optional	Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified.
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP.
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask.
probe-port	**[0..2^32-1]**	integer optional	Probe-port for Cloud Load Balancer
return-record		boolean optional	If set to true, returns the given network interface on successful creation. Default: false
			Specifies the role of the LIF. Default: data Possible values:

role		string optional	• "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet)
service-policy		string optional	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: • 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster'
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration.
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string	Specifies the Vserver name.

Output Name	Range	Type	Description
result		net-interface-info optional	The given network interface created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

EONTAPI_EADDRINUSE	
EONTAPI_EEXIST	
E_INVALID_PORT_NAME	
EAPIUNSUPPORTEDVERSION	
E_DEGRADED_PORT_CANT_HOST_LIF	
E_SAN_NOT_READY	
E_NVMF_EXCLUSIVE_VSERVER	
E_NVMF_SERVICE_REQUIRED	
E_NVMF_UNSUPPORTED_LIF_CONFIG	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-delete

[top]

Destroy an existing network interface object.

Input Name	Range	Type	Description
interface-name		string	Specifies the logical interface (LIF) name.
vserver		string	Specifies the Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-get

[top]

Get the attributes of a network interface.

Input Name	Range	Type	Description
desired-attributes		net-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface-name		string	Specifies the logical interface (LIF) name.

Output Name	Range	Type	Description
attributes		net-interface-info	The attributes of the given network interface.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-interface-get-iter

[top]

Iterate over a list of network interface objects.

Input Name	Range	Type	Description
desired-attributes		net-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the given network interface object. All given network interface objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-info[] optional	The list of attributes of given network interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more given network interface objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-interface-migrate

[top]

Migrate a Logical Interface between nodes and ports

Input Name	Range	Type	Description
destination-node		node-name	Specifies the node to which the logical interface is to be migrated.
destination-		string	Specifies the port or interface group to which the logical interface is to be

port		optional	migrated. If not specified, this field will be set to the port name of the port on which the LIF currently resides. example: node2
force		boolean optional	Force the migration operation. If not specified, this field will be set to false. If set to true, migrating a LIF whos 'sticky' field is set to true, or whose current node is sick will be allowed. Otherwise they will not be permitted.
lif		string	Specifies the logical interface that is to be migrated. example: lif1
vserver		string	Specifies the Vserver that owns the logical interface that is to be migrated. example: vs0

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_DEGRADED_PORT_CANT_MOVE_LIF	

net-interface-modify

[top]

Modify the attributes of network interface object.

Input Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP.
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down',
comment		string optional	Comment
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF.
failover-group		failover-group optional	Specifies the failover group name.
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'.
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt',

			• 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster'
force-subnet-association		boolean optional	Force the LIF's Subnet Association
home-node		string optional	Specifies the LIF's home node.
home-port		string optional	Specifies the LIF's home port.
interface-name		string	Specifies the logical interface (LIF) name.
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified.
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP.
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask.
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet)
service-policy		string optional	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: • 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster'
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration.
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string	Specifies the Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_SAN_NOT_READY	
E_DEGRADED_PORT_CANT_MOVE_LIF	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-modify-iter

[top]

Modify the attributes of network interface or a group of network interface objects.

Input Name	Range	Type	Description
attributes		net-interface-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple given network interface objects match a given query. If set to true, the API will continue modifying the next matching given network interface even when modification of a previous given network interface fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching given network interface even when the modification of a previous matching given network interface fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		net-interface-info	If modifying a specific given network interface, this input element must specify all keys. If modifying given network interface objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of given network interface objects (just keys) that were not modified due to some error. If set to false, the list of given network interface objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of given network interface objects (just keys) that were successfully updated. If set to false, the list of given network interface objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

failure-list		net-interface-modify-iter-info[] optional	Information about given network interface objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching given network interface objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of given network interface objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of given network interface objects that matched the query and were successfully updated.
success-list		net-interface-modify-iter-info[] optional	The given network interface objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
E_SAN_NOT_READY	
E_DEGRADED_PORT_CANT_MOVE_LIF	

net-interface-rename

[top]

Rename a logical interface.

Input Name	Range	Type	Description
interface-name		string	Specifies the logical interface that is to be renamed.
new-name		string	Specifies the new name for the interface.
vserver		string	Specifies the Vserver that owns the logical interface that is to be renamed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-revert

[top]

Revert a logical interface back to its home port following a deliberate migration or failover.

Input Name	Range	Type	Description
interface-name		string	Specifies the logical interface that is to be reverted.
vserver		string	Specifies the Vserver that owns the logical interface that is to be reverted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_DEGRADED_PORT_CANT_MOVE_LIF	

net-interface-service-get

[top]

Get the attributes of the network interface service object.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
service		lif-service-name	The name of the network interface service.

Output Name	Range	Type	Description
attributes		net-interface-service-info	The attributes of the net-interface-service.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

net-interface-service-get-iter

[top]

Iterate over a list of network interface service objects.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

		optional	
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-service-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service object. All net-interface-service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-service-info[] optional	The list of attributes of net-interface-service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-interface-service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-interface-service-policy-add-service

[top]

Add an additional service to an existing network interface service policy.

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[] optional	The allowed address list to be associated with this service.
policy		string	The name of the network interface service policy.
service		lif-service-name	The service to be added to the specified network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_NOT_FOUND	
E_NET_SERVICE_ALREADY_IN_POLICY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-clone

[top]

Clone a network service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
target-policy		string	Use this name for the new network service policy.
target-vserver		vserver-name	Use this vserver for the new network service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_ALREADY_EXISTS	
E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-create

[top]

Create a new network interface service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
return-record		boolean optional	If set to true, returns the net-interface-service-policy on successful creation. Default: false
services		lif-service-name[] optional	Services included in the network interface service policy.
vserver		string	Vserver name that the network interface service policy belongs to.

Output Name	Range	Type	Description
result		net-interface-service-policy-info optional	The net-interface-service-policy created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_NOT_SUPPORTED	
E_NET_SERVICE_POLICY_RESERVED_NAME	
E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED	
E_NET_SERVICE_NOT_FOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-destroy

[top]

Delete an existing network interface service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
vserver		string	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_SYSTEM_OWNED	
E_NET_SERVICE_POLICY_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-entry-get

[top]

Get the attributes of the network interface service policy entry.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	The name of the network interface service policy.
service		lif-service-name	The name of the network interface service contained in this policy.

Output Name	Range	Type	Description
attributes		net-interface-service-policy-entry-info	The attributes of the net-interface-service-policy-entry.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

net-interface-service-policy-entry-get-iter

[top]

Iterate over a list of network interface service policy entry.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-service-policy-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy-entry object. All net-interface-service-policy-entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-service-policy-entry-info[] optional	The list of attributes of net-interface-service-policy-entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-interface-service-policy-entry objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-interface-service-policy-get

[top]

Get the attributes of the network interface service policy object.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	The name of the network interface service policy.

Output Name	Range	Type	Description
attributes		net-interface-service-policy-info	The attributes of the net-interface-service-policy.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

net-interface-service-policy-get-iter

[top]

Iterate over a list of network interface service policy objects.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-service-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy object. All net-interface-service-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-service-policy-info[] optional	The list of attributes of net-interface-service-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-interface-service-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-interface-service-policy-modify-service

[top]

Modify the attributes of an existing network interface service policy.

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[]	The allowed address list to be associated with this service.
policy		string	The name of the network interface service policy.
service		lif-service-name	The service to be updated in the specified network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_NOT_IN_POLICY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-remove-service

[top]

Remove a service from an existing network interface service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
service		lif-service-name	The service to be removed from the specified network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_NOT_IN_POLICY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-rename

[top]

Rename a network service policy.

Input Name	Range	Type	Description

new-name		string	Assign this name to the network service policy.
policy		string	The name of the network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_SYSTEM_OWNED	
E_NET_SERVICE_POLICY_ALREADY_EXISTS	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-restore-defaults

[top]

Restore default settings to a network service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_NO_DEFAULTS	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-ipspaces-create

[top]

Create an IPspace

Input Name	Range	Type	Description
ipspace		string	IPspace name
return-record		boolean optional	If set to true, returns the given IPspace on successful creation. Default: false

Output Name	Range	Type	Description
result		net-ipspaces-info optional	The given IPspace created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	

EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	

net-ipspaces-destroy

[top]

Delete an IPspace

Input Name	Range	Type	Description
ipspace		string	IPspace name

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-ipspaces-get

[top]

Get the attributes of an IPspace.

Input Name	Range	Type	Description
ipspace		string	IPspace name

Output Name	Range	Type	Description
broadcast-domains		broadcast-domain-name[] optional	The broadcast domains that belong to the IPspace
ports		net-qualified-port-name[] optional	The ports that have been assigned to the IPspace. This field must be specified with the following format: :
vservers		vserver-name[]	The vservers that have been assigned to the IPspace

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-ipspaces-get-iter

[top]

Iterate over a list of IPspace objects.

Input Name	Range	Type	Description

desired-attributes		net-ipspaces-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ipspaces-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the given IPspace object. All given IPspace objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ipspaces-info[] optional	The list of attributes of given IPspace objects.
next-tag		string optional	Tag for the next call. Not present when there are no more given IPspace objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-ipspaces-rename

[top]

Rename an IPspace.

Input Name	Range	Type	Description
ipspace		string	Current IPspace name
new-name		string	New IPspace name. Note: You cannot rename system defined ipspaces.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	

net-ndp-active-neighbor-destroy

[top]

Delete an existing network ndp active neighbor object.

Input Name	Range	Type	Description

neighbor		ip-address	Specify the neighbor IPv6 address. Example: fd20:13::1
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical port.
subnet-group		ip-and-mask	Subnet Group
vserver		vif-owner-name	Specify the name of a System or Admin Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-active-neighbor-get

[top]

Get the attributes of the network ndp active neighbor.

Input Name	Range	Type	Description
desired-attributes		net-ndp-neighbor-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
neighbor		ip-address	Specify the neighbor IPv6 address. Example: fd20:13::1
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical port.
subnet-group		ip-and-mask	Subnet Group
vserver		vif-owner-name	Specify the name of a System or Admin Vserver.

Output Name	Range	Type	Description
attributes		net-ndp-neighbor-cache-info	The attributes of the network ndp active neighbor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-active-neighbor-get-iter

[top]

Iterate over a list of network ndp active neighbor objects.

Input Name	Range	Type	Description

desired-attributes		net-ndp-neighbor-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ndp-neighbor-cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp active neighbor object. All network ndp active neighbor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ndp-neighbor-cache-info[] optional	The list of attributes of network ndp active neighbor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ndp active neighbor objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ndp-default-router-delete-all

[top]

Delete default routers on a given IPspace

Input Name	Range	Type	Description
ipspace		string	Speicifies the IPspace where the default router list will be deleted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-default-router-get

[top]

Get the attributes of the network ndp default-router.

Input Name	Range	Type	Description
		net-ndp-default-	Specify the attributes that should be returned. If not present, all

desired-attributes		router-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	Specify the name of the Ipspace.
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical interface.
router-addr		ip-address	Specify the default router IPv6 address.

Output Name	Range	Type	Description
attributes		net-ndp-default-router-info	The attributes of the network ndp default-router.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-default-router-get-iter

[top]

Iterate over a list of network ndp default-router objects.

Input Name	Range	Type	Description
desired-attributes		net-ndp-default-router-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ndp-default-router-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp default-router object. All network ndp default-router objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ndp-default-router-info[] optional	The list of attributes of network ndp default-router objects.

next-tag		string optional	Tag for the next call. Not present when there are no more network ndp default-router objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ndp-neighbor-create

[top]

Configure a new NDP neighbor entry

Input Name	Range	Type	Description
mac-address		mac-address	Specifies the neighbor's MAC Address.
neighbor-address		ip-address	Specifies the neighbor's IPv6 Address.
return-record		boolean optional	If set to true, returns the network NDP neighbor on successful creation. Default: false

Output Name	Range	Type	Description
result		ndp-neighbor-info optional	The network NDP neighbor created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

net-ndp-neighbor-destroy

[top]

Delete an existing static NDP neighbor entry

Input Name	Range	Type	Description
neighbor-address		ip-address	Specifies the neighbor's IPv6 Address.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-neighbor-get

[top]

Get a static configured NDP neighbor entry.

Input Name	Range	Type	Description

desired-attributes		ndp-neighbor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
neighbor-address		ip-address	Specifies the neighbor's IPv6 Address.

Output Name	Range	Type	Description
attributes		ndp-neighbor-info	The attributes of the network NDP neighbor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-neighbor-get-iter

[top]

Iterator over a list of static configured NDP neighbor entries.

Input Name	Range	Type	Description
desired-attributes		ndp-neighbor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ndp-neighbor-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network NDP neighbor object. All network NDP neighbor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndp-neighbor-info[] optional	The list of attributes of network NDP neighbor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network NDP neighbor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ndp-prefix-delete-all

[top]

Delete IPv6 prefixes on a given IPspace

Input Name	Range	Type	Description
ipspace		string	Speicifies the IPspace where the prefix list will be deleted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-prefix-get

[top]

Get the attributes of the network ndp prefix.

Input Name	Range	Type	Description
desired-attributes		net-ndp-prefix-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	Specify the name of the Ipspace.
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical port.
prefix		ip-and-mask	Specify the prefix.

Output Name	Range	Type	Description
attributes		net-ndp-prefix-info	The attributes of the network ndp prefix.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-prefix-get-iter

[top]

Iterate over a list of network ndp prefix objects.

Input Name	Range	Type	Description
desired-		net-ndp-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		prefix-info optional	present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ndp-prefix-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp prefix object. All network ndp prefix objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ndp-prefix-info[] optional	The list of attributes of network ndp prefix objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ndp prefix objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-options-get

[top]

Get the attributes of the net.

Output Name	Range	Type	Description
net-options		net-options	Network Options Typedef

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-options-hypervisor-uplink-monitoring-get

[top]

Get the hypervisor uplink monitoring status.

Input Name	Range	Type	Description
desired-attributes		net-options-hypervisor-uplink-monitoring-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		info optional	available will be returned.

Output Name	Range	Type	Description
attributes		net-options-hypervisor-uplink-monitoring-info	The attributes of the net.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-options-hypervisor-uplink-monitoring-modify

[top]

Modify the hypervisor uplink monitoring status.

Input Name	Range	Type	Description
enabled		boolean optional	Hypervisor Uplink Monitoring

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-options-modify

[top]

Modify the attributes of net object.

Input Name	Range	Type	Description
net-options		net-options	Network Options Typedef

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-placement-cache-delete

[top]

Delete LIF placement cached information.

Input Name	Range	Type	Description
address		ip-address	The IP address that was searched.

netmask-length	**[0..2^32-1]**	integer	The number of bits in the subnet mask (i.e. 24 or 64).
node		string	Specifies the name of the node.
port		string	The port name on the node.
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

net-placement-cache-get-iter

[top]

Iterate over the LIF placement cached information.

Input Name	Range	Type	Description
desired-attributes		net-placement-cache optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-placement-cache optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network interface placement object. All network interface placement objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-placement-cache[] optional	The list of attributes of network interface placement objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network interface placement objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-placement-discover

[top]

Find the ports direcly connected to the IP address

Input Name	Range	Type	Description
address		string	IP Address
mac		string optional	MAC Address
netmask-length	**[0..2^32-1]**	integer	Netmask Length
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

net-port-broadcast-domain-add-ports

[top]

Add ports to a layer 2 broadcast domain.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
ports		net-qualified-port-name[]	Ports to be added to the broadcast domain. Format:node-name:port-name

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status	Overall Port Update Status

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_PORT_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP	

net-port-broadcast-domain-create

[top]

Create a new layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.

ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
mtu	**[0..2^32-1]**	integer	Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain.
ports		net-qualified-port-name[] optional	Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_PORT_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_CANNOT_ADD_TO_CLUSTER_IPSPACE	
E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU	
E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP	

net-port-broadcast-domain-destroy

[top]

Destroy an existing layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	

E_VIFMGR_CANNOT_REMOVE_CLUSTER_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_HOSTS_PORTS	

net-port-broadcast-domain-get

[top]

Get the attributes of the layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
desired-attributes		net-port-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.

Output Name	Range	Type	Description
attributes		net-port-broadcast-domain-info	The attributes of the net-port-broadcast-domain.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	

net-port-broadcast-domain-get-iter

[top]

Iterate over a list of layer 2 broadcast domain objects.

Input Name	Range	Type	Description
desired-attributes		net-port-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-port-broadcast-domain-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-port-broadcast-domain object. All net-port-broadcast-domain objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

			obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-port-broadcast-domain-info[] optional	The list of attributes of net-port-broadcast-domain objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-port-broadcast-domain objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	

net-port-broadcast-domain-merge

[top]

Merges two layer 2 broadcast domains.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
into-broadcast-domain		broadcast-domain-name	Merge with this layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_MERGE_MTU_MISMATCH	

net-port-broadcast-domain-modify

[top]

Modify the attributes of the layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
			Maximum Transmission Unit (MTU) of the layer 2 broadcast

mtu	**[0..2^32-1]**	integer	domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain.

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU	

net-port-broadcast-domain-remove-ports

[top]

Remove ports from a layer 2 broadcast domain.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
ports		net-qualified-port-name[]	Ports to be removed from their current layer 2 broadcast domain.

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status	Overall Port Update Status

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_PORT_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_PORT_NOT_ASSIGNED_TO_BROADCAST_DOMAIN	

net-port-broadcast-domain-rename

[top]

Rename a layer 2 broadcast domain.

Input Name	Range	Type	Description

broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
new-name		string	New name for the layer 2 broadcast domain

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_CANNOT_RENAME_CLUSTER_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_RENAME_ENTRY_EXISTS	

net-port-broadcast-domain-split

[top]

Splits a layer 2 broadcast domain into two layer 2 broadcast domains.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
new-broadcast-domain		broadcast-domain-name	New layer 2 broadcast domain name.
ports		net-qualified-port-name[]	The ports to be split from current broadcast domain and added to the new broadcast domain. Format:node-name:port-name

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_PORT_NOT_ASSIGNED_TO_SAME_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_NAMED_FAILOVER_GROUP_EXISTS	
E_VIFMGR_FAILOVER_GROUP_TARGETS_NOT_IN_SPLIT_PORTS	
E_VIFMGR_LIF_CURRENT_AND_HOME_NOT_IN_SPLIT	
E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_NOT_SPLIT	
E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_IN_SPLIT	
E_VIFMGR_SUBNET_USED_BY_PORTS_IN_BROADCAST_DOMAIN	

net-port-delete

[top]

Delete a physical network port. This is typically used when there is an entry in the port table reffering to a physical port that was previously removed from a node. Any LIFs hosted on the port must be deleted or moved to another port before deletion of the port is permitted

Input Name	Range	Type	Description
node		node-name	Specifies the name of node.
port		lif-bindable	Specifies the name of port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_CANT_DELETE_PORT_HOSTING_LIF	

net-port-get

[top]

Get the attributes of a network port.

Input Name	Range	Type	Description
desired-attributes		net-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	Specifies the name of node.
port		string	Specifies the name of port.

Output Name	Range	Type	Description
attributes		net-port-info	The attributes of the given network port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-get-iter

[top]

Iterate over a list of network port objects.

Input Name	Range	Type	Description
desired-attributes		net-port-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

		optional	will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the given network port object. All given network port objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-port-info[] optional	The list of attributes of given network port objects.
next-tag		string optional	Tag for the next call. Not present when there are no more given network port objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-health-monitor-disable

[top]

Disable one or more port health monitors

Input Name	Range	Type	Description
health-monitors		netport-degraded-reason[]	List of Port Health Monitors to Disable
ipspace		string	IPspace Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-port-health-monitor-enable

[top]

Enable one or more port health monitors

Input Name	Range	Type	Description
health-monitors		netport-degraded-reason[]	List of Port Health Monitors to Enable
ipspace		string	IPspace Name

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-port-health-monitor-get

[top]

Get the network port health monitors enabled for an IPspace.

Input Name	Range	Type	Description
desired-attributes		net-port-health-monitor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace Name

Output Name	Range	Type	Description
attributes		net-port-health-monitor-info	The attributes of the net.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-port-health-monitor-get-iter

[top]

Iterate over the the network port health monitors enabled for each IPspace.

Input Name	Range	Type	Description
desired-attributes		net-port-health-monitor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-port-health-monitor-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		net-port-	

attributes-list		health-monitor-info[] optional	The list of attributes of net objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-port-ifgrp-add-port

[top]

Add port to a network interface group.

Input Name	Range	Type	Description
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.
port		string	Specifies the name of port.
skip-broadcast-domain-placement		boolean optional	Skip Placement Into Broadcast Domain

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_DEGRADED_PORT_IFGRP_ADDED	

net-port-ifgrp-create

[top]

Create a new network interface group.

Input Name	Range	Type	Description
distribution-function		string	Specifies the traffic distribution function for the ifgrp. Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.

mode		string	Specifies the link policy for the ifgrp. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time'
node		string	Specifies the name of node.
return-record		boolean optional	If set to true, returns the network interface group on successful creation. Default: false

Output Name	Range	Type	Description
result		net-ifgrp-info optional	The network interface group created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_INVALID_IFGRP_NAME	

net-port-ifgrp-destroy

[top]

Destroy an existing network interface group.

Input Name	Range	Type	Description
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-ifgrp-get

[top]

Get the attributes of a network interface group (ifgrp).

Input Name	Range	Type	Description
desired-attributes		net-ifgrp-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
		netport-	

ifgrp-name		ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.

Output Name	Range	Type	Description
attributes		net-ifgrp-info	The attributes of the network interface group.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-ifgrp-remove-port

[top]

Remove port from a network interface group.

Input Name	Range	Type	Description
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.
port		string	Specifies the name of port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-modify

[top]

Modify the given attributes of network port and the rest remain unchanged.

Input Name	Range	Type	Description
administrative-duplex		string optional	Specifies the user preferred duplex setting of the port. Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage
administrative-flowcontrol		string optional	Specifies the user preferred flow control setting of the port.
			Specifies the user preferred speed setting of the port. Possible values:

administrative-speed		string optional	• "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
autorevert-delay	**[0..2^32-1]**	integer optional	For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port.
ignore-health-status		boolean optional	Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false.
ipspace		string optional	Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports.
is-administrative-auto-negotiate		boolean optional	Enables or disables Ethernet auto-negotiation of speed, duplex and flow control.
is-administrative-up		boolean optional	If true, it changes the state of the port to 'up'.
mtu	**[0..2^32-1]**	integer optional	Specifies the maximum transmission unit (MTU) reported by the port.
node		string	Specifies the name of node.
port		string	Specifies the name of port.
role		string optional	This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-modify-iter

[top]

Modify the attributes of network port or a group of network port objects.

Input Name	Range	Type	Description
attributes		net-port-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple given network port objects match a given query. If set to true, the API will continue modifying the next matching given network port even when modification of a previous given network port fails. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue modifying the next matching given network port even when the modification of a previous matching given network port fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		net-port-info	If modifying a specific given network port, this input element must specify all keys. If modifying given network port objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of given network port objects (just keys) that were not modified due to some error. If set to false, the list of given network port objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of given network port objects (just keys) that were successfully updated. If set to false, the list of given network port objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		net-port-modify-iter-info[] optional	Information about given network port objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching given network port objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of given network port objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of given network port objects that matched the query and were successfully updated.
success-list		net-port-modify-iter-info[] optional	The given network port objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-qos-marking-get-iter

[top]

Iterate over a list of QoS Marking attributes

Input Name	Range	Type	Description
desired-attributes		qos-marking optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-marking optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-qos-marking object. All net-qos-marking objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-marking[] optional	The list of attributes of net-qos-marking objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-qos-marking objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-qos-marking-modify

[top]

Modify the the QoS Marking attributes of a protocol

Input Name	Range	Type	Description
dscp	**[0..63]**	integer optional	DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48.
ipspace		string	IPspace Name.
is-enabled		boolean optional	QoS Marking status. Default setting is false.
protocol		string	Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-routes-create

[top]

Create a new network route.

Input Name	Range	Type	Description
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1
metric	**[0..2^32-1]**	integer optional	Specify the route metric. If this field is not provided the default will be set to 30
return-record		boolean optional	If set to true, returns the network route on successful creation. Default: false

Output Name	Range	Type	Description
result		net-vs-routes-info optional	The network route created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-routes-destroy

[top]

Destroy an existing network route object.

Input Name	Range	Type	Description
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-routes-get

[top]

Get the attributes of a network route.

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1

Output Name	Range	Type	Description
attributes		net-vs-routes-info	The attributes of the network route.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-routes-get-iter

[top]

Iterate over a list of network route objects.

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-vs-routes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network route object. All network route objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-vs-routes-info[] optional	The list of attributes of network route objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network route objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-routes-lifs-get

[top]

Get the logical interfaces (LIFs) associated with a network route.

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-lif-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1

Output Name	Range	Type	Description
attributes		net-vs-routes-lif-info	The attributes of the network route showlifs.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-routes-lifs-get-iter

[top]

Iterate over a list of network route objects and get the associated logical interfaces (LIFs).

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-lif-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-vs-routes-lif-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network route showlifs object. All network route showlifs objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-vs-routes-lif-info[] optional	The list of attributes of network route showlifs objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network route showlifs objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-san-lif-placement-get

[top]

Get the attributes of the SAN LIF Placement.

Input Name	Range	Type	Description
adapter-type		adapter-type	Adapter type
broadcast-domain		broadcast-domain-name optional	It is for iSCSI protocol only. If provided, only the candidate ports in the given broadcast domain will be returned; otherwise, all candidate ports will be returned. It is interchangeable with subnet-name. If both are provided but the given subnet is not in the given broadcast domain, then an error will be returned.
ipspace-name		string optional	The IPspace that the given subnet or broadcast domain belongs to. It is required when either subnet-name or broadcast-domain is provided.
lifs-per-node	[0..2^32-1]	integer	LIFs per node
nodelist		node-name[] optional	If provided, LIF placement is returned only for the given nodes. Otherwise, they are returned for all nodes in the cluster.
protocol		data-protocol	Protocol
subnet-name		subnet-name optional	It is for iSCSI protocol only. If provided, only the candidate ports in the broadcast domain that the subnet belongs to will be returned; otherwise, all candidate ports will be returned. It is interchangeable with broadcast-domain. If both are provide but the given subnet is not in the given broadcast domain, then an error will be returned.

Output Name	Range	Type	Description
lif-placement		lif-placement-info[]	SAN LIF placement

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
EADAPTERNOTFOUND	
E_TOO_FEW_PORTS	
EAPIUNSUPPORTEDVERSION	

net-subnet-add-ranges

[top]

Add address ranges to a subnet.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed.
ip-ranges		ip-range[]	The list of ranges to add to the subnet
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-create

[top]

Create a new subnet object. A subnet object represents a layer 3 subnet in a network.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	Layer 2 broadcast domain name that the subnet belongs to.
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed.
gateway		ip-address optional	The gateway for the default route of the subnet.

ip-ranges		ip-range[] optional	The list of IP address ranges associated with the subnet.
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
return-record		boolean optional	If set to true, returns the net-subnet on successful creation. Default: false
subnet		ip-and-mask	Layer 3 Subnet
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Output Name	Range	Type	Description
result		net-subnet-info optional	The net-subnet created (keys or the entire object if requested)

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_INVALID_GATEWAY	
E_VIFMGR_CONFLICTS_WITH_EXISTING_SUBNET	
E_VIFMGR_SUBNET_NAME_ALREADY_EXISTS	
E_VIFMGR_SUBNET_ALREADY_EXISTS	
E_VIFMGR_SUBNET_SUBNET_NESTED	
E_VIFMGR_SUBNET_INVALID	
E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_GATEWAY_INVALID	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID	
E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-destroy

[top]

Destroy an existing subnet object.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if the subnet has ranges containing any existing service processor interface or network interface IP addresses. Setting this value to true will remove the network interface associations with the subnet and allow the command to succeed. However, it will not affect service processor interfaces.
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-		subnet-	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or

name		name	a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-get

[top]

Get the attributes of the subnet object.

Input Name	Range	Type	Description
desired-attributes		net-subnet-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Output Name	Range	Type	Description
attributes		net-subnet-info	The attributes of the net-subnet.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	

net-subnet-get-iter

[top]

Iterate over a list of subnet objects.

Input Name	Range	Type	Description
desired-attributes		net-subnet-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-**	integer	The maximum number of records to return in this call. Default: 20

	1]	optional	
query		net-subnet-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnet object. All net-subnet objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-subnet-info[] optional	The list of attributes of net-subnet objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-subnet objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	

net-subnet-modify

[top]

Modify an existing subnet object.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed.
gateway		ip-address optional	The gateway for the default route of the subnet.
ip-ranges		ip-range[] optional	The list of IP address ranges associated with the subnet.
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet		ip-and-mask optional	Layer 3 Subnet
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	

E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_ENTRY_EXISTS	
E_VIFMGR_SUBNET_DUPLICATE_SUBNET	
E_VIFMGR_SUBNET_SUBNET_NESTED	
E_VIFMGR_SUBNET_INVALID	
E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_GATEWAY_INVALID	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID	
E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	
E_VIFMGR_SUBNET_LIF_NETMASK_CHANGE_NOT_SUPPORTED	
E_VIFMGR_SUBNET_LIF_NETMASK_MISMATCH	

net-subnet-remove-ranges

[top]

Remove address ranges from a subnet.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if any existing service processor interfaces or network interfaces are using IP addresses in the ranges provided. Setting this value to true will remove the subnet's association with those interfaces and allow the command to succeed.
ip-ranges		ip-range[]	IP ranges to remove
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-rename

[top]

Rename a layer 3 subnet.

Input Name	Range	Type	Description
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
new-name		string	New name for the layer 3 subnet
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_ALREADY_EXISTS	

net-subnets-for-broadcast-domain-get

[top]

Get the list of subnets associated with the layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
desired-attributes		net-subnets-for-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace name that the layer 2 broadcast domain belongs to.

Output Name	Range	Type	Description
attributes		net-subnets-for-broadcast-domain-info	The attributes of the net-subnets-for-broadcast-domain.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	

net-subnets-for-broadcast-domain-get-iter

[top]

Iterate over a list of subnets associated with the layer 2 broadcast domain objects.

Input Name	Range	Type	Description
		net-	

desired-attributes		subnets-for-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-subnets-for-broadcast-domain-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnets-for-broadcast-domain object. All net-subnets-for-broadcast-domain objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-subnets-for-broadcast-domain-info[] optional	The list of attributes of net-subnets-for-broadcast-domain objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-subnets-for-broadcast-domain objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	

net-test-path

[top]

Test performance between specified nodes

Input Name	Range	Type	Description
connection-detail		boolean optional	Display test results per network path.
destination-cluster		cluster-name	The cluster containing the destination node.
destination-node		string	The node receiving the session request.
session-type		csm-session-type	Type of session used for session parameters. Possible values: • "asyncmirrorlocal" - Intra-cluster Async Mirror, • "asyncmirrorremote" - Inter-cluster Async Mirror, • "remotedatatransfer" - Intra-cluster File/Lun Read/Write

source-node		node-name	The node initiating the session request.

Output Name	Range	Type	Description
average-latency	**[0..2^64-1]**	integer optional	Average request + response time in microseconds, for all request/response pairs.
cookie	**[0..2^32-1]**	integer optional	The send cookie used for the request.
maximum-latency	**[0..2^64-1]**	integer optional	Maximum request + response time in microseconds, for all request/response pairs.
minimum-latency	**[0..2^64-1]**	integer optional	Minimum request + response time in microseconds, for all request/response pairs.
receive-throughput	**[0..2^64-1]**	integer optional	Receive throughput (destination to source node) in bytes/second.
send-throughput	**[0..2^64-1]**	integer optional	Send throughput (source to destination node) in bytes/second.
test-duration	**[0..2^64-1]**	integer optional	Test duration in microseconds.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-traceroute6

[top]

Trace the route IPv6 packets take to a host. The input node is exclusive with the interface input. Only one is allowed. The interface input must be specified with interface owner.

Input Name	Range	Type	Description
debug-mode		boolean optional	Specifies the use of debug-mode for socket level debugging. Default: False
destination-address		string	Specifies the IPv6 address of the destination.
first-hop		integer optional	Specifies the number of hops to skip in trace. Default: 1.
gateway		remote-inet-address optional	Specifies the intermediate gateway.
hop-limit		integer optional	Specifies the maximum hoplimit. Default: 64. Range: [1..255].
interface		string optional	Specifies the LIF from where traceroute is to be started. This interface input must be specified with the interface-owner input.
interface-owner		string optional	Specifies the optional Vserver from which traceroute is to be started. If Vserver is not specified, then traceroute will be started from cluster adminstration Vserver of the cluster.
node		string optional	Specifies the node from which traceroute is to be started. The input node is exclusive with the interface input. Only one is allowed.
nqueries		integer optional	Specifies the number of probes per hop. Default: 3.
numeric		boolean	Specifies printing of hop addresses only numerically rather than

		optional	symbolically and numerically. Default: False.
packet-size		integer optional	Specifies the size of probe packets in bytes. Default: 16 for ICMP6 ECHO and 12 for UDP datagrams.
port		integer optional	Specifies the base UDP port number used in probes. Default: 33434.
use-icmp6		boolean optional	Specifies use of ICMP6 ECHO instead of UDP datagrams for probes. This parameter is mutually exclusive with the udp parameter. Default: False.
use-udp		boolean optional	Specifies use of UDP datagrams for probes. This parameter is mutually exclusive with the icmp6 parameter. Default: True.
verbose		boolean optional	Specifies that all received ICMP packets must be displayed rather than just TIME_EXCEEDED and UNREACHABLE packets. Default: False.
wait-time		integer optional	Specifies the delay time between probes in seconds. Default: 5. Range: [1..65535].

Output Name	Range	Type	Description
raw-output		string optional	The multi-line output of the OS level traceroute6 command.

Errno	Description
EONTAPI_EAFNOSUPPORT	
EONTAPI_EPERM	
EONTAPI_ENOPROTOOPT	
EINTERNALERROR	
EOBJECTNOTFOUND	

net-tuning-icmp-get

[top]

Get ICMP tuning options.

Input Name	Range	Type	Description
desired-attributes		net-tuning-icmp-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		net-tuning-icmp-options	The attributes of the ICMP protocol tuning.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-icmp-modify

[top]

Modify ICMP tuning options

Input Name	Range	Type	Description
is-drop-redirect-enabled		boolean optional	Drop redirect ICMP
node		node-name	Node
redirect-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout
tx-icmp-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMP packets sent per second

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-icmp6-get

[top]

Get ICMPv6 tuning options.

Input Name	Range	Type	Description
desired-attributes		net-tuning-icmp6-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		net-tuning-icmp6-options	The attributes of the ICMPv6 protocol tuning.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-icmp6-modify

[top]

Modify ICMPv6 tuning options

Input Name	Range	Type	Description
is-v6-redirect-		boolean	Accept redirects via ICMPv6

accepted		optional	
node		node-name	Node
redirect-v6-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout
tx-icmp6-err-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMPv6 error messages sent per second

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-tcp-get

[top]

Get TCP tuning options.

Input Name	Range	Type	Description
desired-attributes		net-tuning-tcp-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		net-tuning-tcp-options	The attributes of the TCP protocol tuning.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-tcp-modify

[top]

Modify TCP tuning options

Input Name	Range	Type	Description
is-path-mtu-discovery-enabled		boolean optional	Path MTU discovery enabled
is-rfc3390-enabled		boolean optional	RFC3390 enabled
is-rfc3465-enabled		boolean optional	RFC3465 enabled
is-sack-enabled		boolean	SACK support enabled

		optional	
max-cwnd-increment	**[0..2^32-1]**	integer optional	Maximum congestion window segments incrementation
node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-vip-port-create

[top]

Create a new VIP port.

Input Name	Range	Type	Description
ipspace		string	IPspace Name
node		node-name	Node
port		net-port	Network Port
return-record		boolean optional	If set to true, returns the net-vip-port on successful creation. Default: false

Output Name	Range	Type	Description
result		vip-port-info optional	The net-vip-port created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

net-vip-port-destroy

[top]

Delete a VIP port.

Input Name	Range	Type	Description
node		node-name	Node
port		net-port	Network Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-vip-port-get

[top]

Get the attributes of a VIP port.

Input Name	Range	Type	Description
desired-attributes		vip-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
port		net-port	Network Port

Output Name	Range	Type	Description
attributes		vip-port-info	The attributes of the net-vip-port.

Errno	Description
EOBJECTNOTFOUND	

net-vip-port-get-iter

[top]

Iterate over a list of VIP ports.

Input Name	Range	Type	Description
desired-attributes		vip-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vip-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vip-port object. All net-vip-port objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vip-port-info[] optional	The list of attributes of net-vip-port objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-vip-port objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-vlan-create

[top]

Create a new vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

Input Name	Range	Type	Description
vlan-info		vlan-info	Vlan to create.

Errno	Description
EVLANEXISTS	
EINTERNALERROR	
EINVALIDINPUTERROR	
EINVALIDTAG	
EINTERFACENOTFOUND	

net-vlan-delete

[top]

Delete a vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

Input Name	Range	Type	Description
vlan-info		vlan-info	Vlan to delete.

Errno	Description
EINTERFACENOTFOUND	

net-vlan-get

[top]

Get the attributes of a VLAN.

Input Name	Range	Type	Description
desired-attributes		vlan-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface-name		string	Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid>
node		string	Node name of vlan interface.

Output Name	Range	Type	Description
		vlan-	

attributes		info	The attributes of the network VLAN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

net-vlan-get-iter

[top]

Iterate over a list of VLAN objects.

Input Name	Range	Type	Description
desired-attributes		vlan-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vlan-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vlan object. All net-vlan objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vlan-info[] optional	The list of attributes of net-vlan objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-vlan objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

Element definition: **adapter-type**

[top]

Adapter types of physical and logical network ports capable of hosting LIFs. Possible values:

- "fc" - Used for FC Adapters,
- "cna" - Used for CNA Adapters,
- "nic" - Used for NIC Adapters,

"ifgrp" - Used for Interface Groups,
- "cna_or_nic" - Used for CNA and NIC Adapters

[none]

Element definition: **bgp-vserver-info**

[top]

BGP Vserver status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ipv4-status		vserver-bgp-state optional	IPv4 status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Fail to query BGP sessions state, • "unconfigured" - BGP is not configured, • "up" - At lease one BGP session is up, • "down" - No BGP sessions are up
ipv6-status		vserver-bgp-state optional	IPv6 status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Fail to query BGP sessions state, • "unconfigured" - BGP is not configured, • "up" - At lease one BGP session is up, • "down" - No BGP sessions are up
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **csm-session-type**

[top]

AsyncMirrorLocal|AsyncMirrorRemote|RemoteDataTransfer Possible values:

- "asyncmirrorlocal" - Intra-cluster Async Mirror,
- "asyncmirrorremote" - Inter-cluster Async Mirror,
- "remotedatatransfer" - Intra-cluster File/Lun Read/Write

[none]

Element definition: **data-lif-capacity-details-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
capacity-for-node	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that can be configured on the nblade of this node. Attributes: non-creatable, non-modifiable
count-for-node	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are currently homed on this node. Attributes: non-creatable, non-modifiable
limit-for-node	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are supported on this node. Attributes: non-creatable, non-modifiable
		node-	Specifies the node for which the capacity details are provided.

node		name optional	Attributes: key, non-creatable, non-modifiable

Element definition: **data-lif-capacity-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
count	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are currently configured in the cluster. Attributes: non-creatable, non-modifiable
limit	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are supported in the cluster. Attributes: non-creatable, non-modifiable

Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

Element definition: **dns-status**

[top]

DNS Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
name-server		string optional	Specifies the IP address of a DNS configuration. Attributes: key, non-creatable, non-modifiable
status		string optional	Specifies the status of a DNS configuration. Attributes: non-creatable, non-modifiable
status-details		string optional	Specifies additional information about the status of a DNS configuration. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the DNS configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **external-route-table-info**

[top]

External Routing Table Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
route-table-id		string optional	Route Table ID Attributes: key, required-for-create, non-modifiable

Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **fw-service**

[top]

[none]

Element definition: **hosts-info**

[top]

Name attributes for one host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aliases		string[] optional	The list of aliases such as 'host1.sales.foo.com'. Attributes: optional-for-create, modifiable
host-ip-address		ip-address optional	IPv4 address in dotted form as '123.123.123.123'. Attributes: key, required-for-create, non-modifiable
hostname		string optional	Canonical hostname in a simple string or in FQDN Attributes: required-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **ip-range**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

Element definition: **lif-bindable**

[top]

|

[none]

Element definition: **lif-capacity-info**

[top]

Information Regarding Potentially Over-Provisioned LIFs When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destination-nodes		filer-id[] optional	This represents the set of nodes a given LIF or LIFs could fail over to. Each node in the list contains at least one port in the given LIF's set of failover targets. Filtering on this field will select only LIFs whose set of failover targets matches the query. Attributes: key, non-creatable, non-modifiable
failover-group		failover-group optional	Specifies the name of an at-risk LIF's failover group. Filtering on this field will select only LIFs whose failover-group attribute matches the query. Attributes: non-creatable, non-modifiable
failover-policy		string optional	Specifies the failover policy for an at-risk LIF. Filtering on this field will select only LIFs whose failover-policy attribute matches the query. Attributes: non-creatable, non-modifiable
lif-name		lif-name optional	Specifies the name of an at-risk LIF. Filtering on this field will select only LIFs whose name matches the query. Attributes: key, non-creatable, non-modifiable
over-amount	**[0..2^32-1]**	integer optional	Indicates the number of LIFs over capacity for a given set of destination-nodes. For all rows returned, this value shall be greater than zero. Filtering on this field will select only LIFs associated with a set of destination nodes whose amount over capacity matches the query. Attributes: non-creatable, non-modifiable
vserver-name		vif-owner-name optional	Specifies the name of the vserver which owns the LIF. Filtering on this field will select only LIFs whose vserver matches the query. Attributes: key, non-creatable, non-modifiable

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **lif-placement-info**

[top]

SAN LIF placement When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
home-node		node-name optional	Home node info Attributes: non-creatable, non-modifiable
home-port		string optional	Port info Attributes: non-creatable, non-modifiable

Element definition: **lif-service-name** [top]

The name of network interface service.

[none]

Element definition: **mac-address** [top]

MAC Address

[none]

Element definition: **ndp-neighbor-info** [top]

NDP Neighbor Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
mac-address		mac-address optional	Specifies the neighbor's MAC Address. Attributes: required-for-create, non-modifiable
neighbor-address		ip-address optional	Specifies the neighbor's IPv6 Address. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **net-active-routes-info**

[top]

Active Routes Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-type		ipaddresstype optional	Specify the address type. Possible values are ipv4 and ipv6. Attributes: key, non-creatable, non-modifiable Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
destination		string optional	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable
flags		string optional	Specify the route's flags. Possible values for flags are U(Usable), G(Gateway), H(Host), R(Reject), D(Dynamic), S(Static), 1(Protocol1), 2(Protocol2), L(Llinfo), and C(Clone). Multiple values can be specified. Example: UHS, UC Attributes: non-creatable, non-modifiable
gateway		string optional	Specify the gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable
interface		string optional	Specify the route's interface. Attributes: key, non-creatable, non-modifiable
lookup-count	**[0..2^32-1]**	integer optional	Specify the count of lookups for the route. Attributes: non-creatable, non-modifiable
metric	**[0..2^32-1]**	integer optional	Specify the route metric. Default: 30 Attributes: non-creatable, non-modifiable
node-name		node-name optional	Specify the name of the node. Attributes: key, non-creatable, non-modifiable
path-mtu	**[0..2^32-1]**	integer optional	Specify the Maximum Transmission Unit for the Path. Attributes: non-creatable, non-modifiable
reference-count	**[0..2^32-1]**	integer optional	Specify the route's reference count. Attributes: non-creatable, non-modifiable
route-interface-address		string optional	Specify the Route Interface Address. Attributes: key, non-creatable, non-modifiable
subnet-group		ip-and-mask optional	Specify the name of the subnet group. Attributes: key, non-creatable, non-modifiable
vserver		vif-owner-name optional	Specify the name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **net-arp-info**

[top]

ARP Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ip-space		string optional	IPspace from which to get the ARP entry. Attributes: non-creatable, non-modifiable
mac-address		mac-address optional	MAC address of remote host. Attributes: required-for-create, non-modifiable
remote-host		ip-address optional	Remote IP address for which to get the ARP entry. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver from which to get the ARP entry. Attributes: key, non-creatable, non-modifiable

Element definition: **net-arp-operational-info**

[top]

ARP Active-entry Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
mac-address		string optional	MAC address of remote host. Attributes: non-creatable, non-modifiable
node		node-name optional	Node from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable
port-name		string optional	Port name from which to get the ARP active entry. Attributes: key, optional-for-create, non-modifiable
remote-host		string optional	Remote IP address for which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable
subnet-group		ip-and-mask optional	Subnet group from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable
		vif-owner-	System or Admin Vserver from which to get the ARP active entry.

vserver		name optional	Attributes: key, non-creatable, non-modifiable

Element definition: **net-bgp-config-info**

[top]

BGP Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The autonomous system number to which this node belongs. Attributes: required-for-create, modifiable
hold-time	**[0..2^32-1]**	integer optional	The hold time (seconds) value to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable
node		node-name optional	The node name that the BGP configuration belongs to. Attributes: key, required-for-create, non-modifiable
router-id		ip-address optional	The router id (IPv4) to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable

Element definition: **net-bgp-defaults-info**

[top]

BGP Default Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The cluster wide default value for autonomous system number. Attributes: non-creatable, modifiable
hold-time	**[0..2^32-1]**	integer optional	The cluster wide default value for routing information hold time (seconds). Attributes: non-creatable, modifiable

[top]

Element definition: **net-bgp-peer-group-info**

BGP peer group information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bgp-lif		lif-name optional	The LIF associated with this peer group. Attributes: required-for-create, non-modifiable
bgp-node		filer-id optional	The node where the peer group exists. Attributes: non-creatable, non-modifiable
bgp-port		net-port optional	The port where the BGP interface is hosted. Attributes: non-creatable, non-modifiable
ipspace		string optional	Name of the IPspace that the peer group belongs to. Attributes: key, required-for-create, non-modifiable
peer-address		ip-address optional	The remote peer router address. Attributes: required-for-create, modifiable
peer-asn	**[0..2^32-1]**	integer optional	The remote peer router Autonomous number. The default value for this paramenter is '0'. Attributes: optional-for-create, non-modifiable
peer-group		string optional	The name of the peer group. Attributes: key, required-for-create, non-modifiable
route-preference	**[0..2^32-1]**	integer optional	The route preference value associated with this peer group. Attributes: required-for-create, non-modifiable
state		bgp-session-state optional	The bgp session state. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "up" , • "down"

Element definition: **net-ddns-info**

[top]

Contains Dynamic DNS Update configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

domain-name		string optional	Vserver FQDN to Be Used for DNS Updates Attributes: optional-for-create, modifiable
is-enabled		boolean optional	Is Dynamic DNS Update Enabled? Attributes: optional-for-create, modifiable
skip-fqdn-validation		boolean optional	Specifies if the Vserver FQDN name validation is skipped. Attributes: optional-for-create, modifiable
ttl		time-interval optional	TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h. Attributes: optional-for-create, modifiable
use-secure		boolean optional	Use Secure Dynamic DNS Updates? Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **net-device-discovery-info**

[top]

Information about discovered devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
capabilities		device-capability[] optional	Capabilities of the discovered devices. For example: switch, igmp. Attributes: non-creatable, non-modifiable Possible values: • "router" - Router, • "trans_bridge" - Trans Bridge, • "source_route_bridge" - Source Route Bridge, • "switch" - Switch, • "host" - Host, • "igmp" - IGMP, • "repeater" - Repeater, • "phone" - Phone
chassis-id		string optional	Chassis ID of the discovered device. Attributes: non-creatable, non-modifiable
device-ip		ip-address[] optional	IP address(es) of the discovered device. At present, only IPv4 addresses are included. Attributes: non-creatable, non-modifiable
discovered-device		string optional	Device discovered by the physical network port. Attributes: key, non-creatable, non-modifiable
hold-time-remaining	**[0..2^32-1]**	integer optional	Remaining packet hold time in seconds for the discovered device. Attributes: non-creatable, non-modifiable
interface		string optional	Interface port of the discovered device. The format is dependent on the reporting device. For example: FastEthernet0/12 or e0a Attributes: key, non-creatable, non-modifiable
		string	The node on which the network port resides. Attributes: key, non-

node		optional	creatable, non-modifiable
platform		string optional	Platform of the discovered device. For example: N5K-C5010P-BF Attributes: non-creatable, non-modifiable
port		string optional	The name of the physical network port for device discovery. For example: e0a Attributes: key, non-creatable, non-modifiable
protocol		string optional	The name of the discovery protocol. Attributes: key, non-creatable, non-modifiable Possible values: • "cdp" , • "lldp"
system-name		string optional	System Name of the discovered device. Attributes: non-creatable, non-modifiable
version		string optional	Software version of the discovered device. Attributes: non-creatable, non-modifiable

Element definition: **net-dns-info**

[top]

Contains DNS configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attempts	**[1..4]**	integer optional	Max number of trials before giving up and returning error. Default is one. Attributes: optional-for-create, modifiable
dns-state		enable optional	Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. Attributes: optional-for-create, modifiable
domains		string[] optional	List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. Attributes: required-for-create, modifiable
is-tld-query-enabled		boolean optional	Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. Attributes: optional-for-create, modifiable
name-servers		ip-address[] optional	IPv4 addresses of name servers such as '123.123.123.123'. Attributes: required-for-create, modifiable
require-packet-query-match		boolean optional	Require query sections of query and response packets to match. Attributes: optional-for-create, modifiable
require-source-address-match		boolean optional	Require source IP address of reply to match the name-server address. Attributes: optional-for-create, modifiable
skip-config-validation		boolean optional	Skip Configuration Validation Attributes: optional-for-create, modifiable
			Number of seconds to wait for a response from a name server before

timeout	**[1..5]**	integer optional	trying a different name server. Default is two seconds. Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **net-failover-group-info**

[top]

Failover Group Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domain		broadcast-domain-name optional	Broadcast Domain Attributes: non-creatable, non-modifiable
failover-group		string optional	The failover group. Attributes: key, required-for-create, non-modifiable
targets		net-qualified-port-name[] optional	The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name Attributes: required-for-create, modifiable
vserver		vif-owner-name optional	The vserver for which the failover group is defined. Attributes: key, non-creatable, non-modifiable

Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-		boolean	Specifies whether firewall protection is enabled (true) or disabled (false) for

enabled		optional	the node's network ports. The default setting is true. Attributes: non-creatable, modifiable
is-logging		boolean optional	This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable
node-name		node-name optional	Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable

Element definition: **net-firewall-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against firewall configuration object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
net-firewall-config-key		net-firewall-config-info	The keys for the firewall configuration object to which the modify operation applies.

Element definition: **net-firewall-policy-info**

[top]

Firewall policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allow-list		ip-and-mask[] optional	Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: Attributes: required-for-create, modifiable
ipspace		string optional	Specifies the ipspace of the vserver for which the policy is defined. Attributes: non-creatable, non-modifiable
policy		string optional	Specifies the name of the firewall policy Attributes: key, required-for-create, non-modifiable
			Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol',

service		fw-service optional	• 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol', Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Specifies the name of the vserver on which the firewall policy is defined. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ifgrp-info**

[top]

Network interface group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
distribution-function		string optional	Specifies the traffic distribution function for the ifgrp. Attributes: required-for-create, non-modifiable Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
down-ports		lif-bindable[] optional	Specifies all inactive ports of an ifgrp. Attributes: non-creatable, non-modifiable
ifgrp-name		netport-ifgrp-name optional	Specifies the interface group name. Attributes: key, required-for-create, non-modifiable
mac-address		string optional	Specifies the MAC address of the ifgrp. For example: '02:0c:29:78:e1:b7' Attributes: non-creatable, non-modifiable
mode		string optional	Specifies the link policy for the ifgrp. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time' Attributes: required-for-create, non-modifiable
node		string optional	Specifies the name of node. Attributes: key, required-for-create, non-modifiable

port-participation		string optional	Port participation state of the ifgrp. Attributes: non-creatable, non-modifiable Possible values: • "full" - Indicates all the ifgrp ports are active, • "partial" - Indicates not all the ifgrp ports are active, • "none" - Indicates none of the ifgrp ports is active
ports		lif-bindable[] optional	List of ports associated with this ifgrp. Attributes: non-creatable, non-modifiable
up-ports		lif-bindable[] optional	Specifies all active ports of an ifgrp. Attributes: non-creatable, non-modifiable

Element definition: **net-interface-info**

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Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
address-family		string optional	Address family Attributes: non-creatable, non-modifiable
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down', Attributes: optional-for-create, modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
current-node		string optional	The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable
current-port		string optional	The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable
			Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying

data-protocols		data-protocol[] optional	'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values: • "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols., • "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable
extended-status		string optional	Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable
failover-group		failover-group optional	Specifies the failover group name. Attributes: optional-for-create, modifiable
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt', • 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster' Attributes: optional-for-create, modifiable
force-subnet-association		boolean optional	Force the LIF's Subnet Association Attributes: optional-for-create, modifiable
home-node		string optional	Specifies the LIF's home node. Attributes: optional-for-create, modifiable
home-port		string optional	Specifies the LIF's home port. Attributes: optional-for-create, modifiable
interface-name		string optional	Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	IPspace of LIF Attributes: non-creatable, non-modifiable
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level

			Attributes: optional-for-create, modifiable
is-home		boolean optional	True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable
is-ipv4-link-local		boolean optional	If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable
is-vip		boolean optional	Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable
lif-uuid		uuid optional	Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable
operational-status		string optional	Specifies the operational status of the LIF. Possible values: • 'up', • 'down', Attributes: non-creatable, non-modifiable
probe-port	**[0..2^32-1]**	integer optional	Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable
role		string optional	Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values: • "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable
service-names		lif-service-name[] optional	Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable
		string	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:

service-policy		optional	• 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster' Attributes: optional-for-create, modifiable
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string optional	Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable
wwpn		string optional	Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable

Element definition: **net-interface-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network interface object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
net-key		net-interface-info	The keys for the given network interface object to which the modify operation applies.

Element definition: **net-interface-service-info**

[top]

Network interface service information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failover-policy		svc-failover-policy optional	The policy that defines specific interface failover restrictions for the service. Attributes: non-creatable, non-modifiable Possible values: • "unrestricted" - Service has no restrictions on LIF failover, • "home_port_only" - Service requires that LIFs do not fail off their home port, • "home_node_only" - Service requires that LIFs do not fail off their home node, • "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner
ports		service-port-info[] optional	TCP/UDP Port Information
service		lif-service-name optional	The name of the network interface service. Attributes: key, non-creatable, non-modifiable
vserver-policy		svc-vserver-policy optional	The policy that defines specific vserver restrictions for the the service. Attributes: non-creatable, non-modifiable Possible values: • "unrestricted" - Service has no vserver restrictions, • "system_only" - Service is only compatible with system vservers, • "data_only" - Service is only compatible with data vservers, • "cluster_only" - Service is only compatible with cluster vservers

Element definition: **net-interface-service-policy-entry-info**

[top]

network interface service policy entry information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allowed-addresses		ip-and-mask[] optional	A list of IP address and IP mask pairs defining which remote addresses are accepted by this policy. Attributes: non-creatable, non-modifiable
policy		string optional	The name of the network interface service policy. Attributes: key, non-creatable, non-modifiable
service		lif-service-name optional	The name of the network interface service contained in this policy. Attributes: key, non-creatable, non-modifiable
		vserver-	

vserver		name optional	Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable

Element definition: **net-interface-service-policy-info**

[top]

network interface service policy configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-built-in		boolean optional	True if the network interface service policy is managed by the system. Attributes: non-creatable, non-modifiable
policy		string optional	The name of the network interface service policy. Attributes: key, required-for-create, non-modifiable
services		lif-service-name[] optional	Services included in the network interface service policy. Attributes: optional-for-create, non-modifiable
vserver		string optional	Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ipspaces-info**

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IPspace Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domains		broadcast-domain-name[] optional	The broadcast domains that belong to the IPspace Attributes: non-creatable, non-modifiable
id	**[0..2^32-1]**	integer optional	The ID of the IPspace. The system will assign a unique id. Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace name Attributes: key, required-for-create, non-modifiable
		net-	

ports		qualified-port-name[] optional	The ports that have been assigned to the IPspace. This field must be specified with the following format: : Attributes: non-creatable, non-modifiable
uuid		uuid optional	The uuid of the IPspace. The system will assign a unique uuid. Attributes: non-creatable, non-modifiable
vservers		vserver-name[] optional	The vservers that have been assigned to the IPspace Attributes: non-creatable, non-modifiable

Element definition: **net-ndp-default-router-info**

[top]

Default Router Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
expire-time		ndp-expire-time optional	Specify the expire time of the default router entry. Attributes: non-creatable, non-modifiable
flag		ndp-ra-flag optional	Specify the flag of the default router. Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "managed_address_dhcpv6" - Managed Address from DHCPv6, • "other_dhcpv6" - Other Configuration from DHCPv6
ipspace		string optional	Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Specify the name of the node. Attributes: key, non-creatable, non-modifiable
port		lif-bindable optional	Specify the physical interface. Attributes: key, non-creatable, non-modifiable
router-addr		ip-address optional	Specify the default router IPv6 address. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ndp-neighbor-cache-info**

[top]

Neighbor Cache Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
expire-time		ndp-expire-time optional	Specify the expire time of the neighbor cache entry. Attributes: non-creatable, non-modifiable
is-router		boolean optional	Specify whether the neighbor is a router. Attributes: non-creatable, non-modifiable
mac-address		mac-address optional	Specify the MAC address of the neighbor. Attributes: required-for-create, non-modifiable
neighbor		ip-address optional	Specify the neighbor IPv6 address. Example: fd20:13::1 Attributes: key, required-for-create, non-modifiable
node		node-name optional	Specify the name of the node. Attributes: key, required-for-create, non-modifiable
port		lif-bindable optional	Specify the physical port. Attributes: key, required-for-create, non-modifiable
probe-count	**[0..2^32-1]**	integer optional	Specify how many times the neighbor MAC are requested for. Attributes: non-creatable, non-modifiable
state		nd-state optional	Specify the state of the neighbor cache entry. Attributes: non-creatable, non-modifiable Possible values: • "nostate" - No State, • "incomplete" - Incomplete, • "reachable" - Reachable, • "stale" - Stale, • "delay" - Delay, • "probe" - Probe, • "unknown" - Unknown State
subnet-group		ip-and-mask optional	Subnet Group Attributes: key, required-for-create, non-modifiable
vserver		vif-owner-name optional	Specify the name of a System or Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ndp-prefix-info**

[top]

Prefix Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
advertising-router		ip-address[] optional	Specify the routers who advertise the prefix. Attributes: non-creatable, non-modifiable
expire-time		ndp-expire-time optional	Specify the expire time of the prefix entry. Attributes: non-creatable, non-modifiable
flag		ndp-prefix-flag optional	Specify the flag of the prefix entry. Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "on_link" - On-link Prefix, • "autonomous" - Autonomous Prefix, • "on_link_autonomous" - On-link and Autonomous Prefix
ipspace		string optional	Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Specify the name of the node. Attributes: key, non-creatable, non-modifiable
origin		ndp-prefix-origin optional	Specify where the prefix assigned from. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknow, • "router_advertise" - Router Advertise, • "renumber_request" - Renumber Request, • "static" - Static, • "kernel" - Kernel
port		lif-bindable optional	Specify the physical port. Attributes: key, non-creatable, non-modifiable
preferred-lifetime		ndp-prefix-lifetime optional	Specify the preferred lifetime of the prefix entry. Attributes: non-creatable, non-modifiable
prefix		ip-and-mask optional	Specify the prefix. Attributes: key, non-creatable, non-modifiable
valid-lifetime		ndp-prefix-lifetime optional	Specify the valid lifetime of the prefix entry. Attributes: non-creatable, non-modifiable

Element definition: **net-options**

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Network Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

detect-switchless-cluster-info		detect-switchless-cluster-info optional	Network options detect-switchless-cluster
ipv6-options-info		ipv6-options-info optional	Network options ipv6
switchless-cluster-info		switchless-cluster-info optional	Network options switchless-cluster

Element definition: **net-options-hypervisor-uplink-monitoring-info**

[top]

Hypervisor Uplink Monitoring Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
enabled		boolean optional	Hypervisor Uplink Monitoring Attributes: non-creatable, modifiable

Element definition: **net-placement-cache**

[top]

Network interface (LIF) placement cached information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	The IP address that was searched. Attributes: key, required-for-create, non-modifiable
found		boolean optional	Whether the subnet described was found on this port. Attributes: non-creatable, non-modifiable
netmask-length	**[0..2^32-1]**	integer optional	The number of bits in the subnet mask (i.e. 24 or 64). Attributes: key, required-for-create, non-modifiable
node		string optional	Specifies the name of the node. Attributes: key, required-for-create, non-modifiable
port		string optional	The port name on the node. Attributes: key, required-for-create, non-modifiable

vserver		string optional	Vserver Name Attributes: key, required-for-create, non-modifiable

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **net-port-broadcast-domain-info**

[top]

Layer 2 broadcast domain configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domain		broadcast-domain-name optional	The name of the layer 2 broadcast domain. Attributes: key, required-for-create, non-modifiable
failover-groups		failover-group[] optional	The list of failover groups associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. Attributes: key, non-creatable, non-modifiable
is-vip		boolean optional	Whether this is a system created VIP broadcast domain. Attributes: non-creatable, non-modifiable
mtu	**[0..2^32-1]**	integer optional	Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. Attributes: required-for-create, modifiable
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. Attributes: non-creatable, non-modifiable Possible values: • "complete" - Port updates are complete and values match the broadcast domain, • "in_progress" - Port values are being updated to match the broadcast domain, • "error" - An error was encountered and values do not match the broadcast domain, • "overridden_while_offline" - Port values were overriden while offline

ports		port-info[] optional	Port information.
subnet-names		subnet-name[] optional	The list of subnet names associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable

Element definition: **net-port-health-monitor-info**

[top]

Network Port Health Monitor Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
health-monitors		netport-degraded-reason[] optional	List of Enabled Port Health Monitors Attributes: non-creatable, modifiable Possible values: • "l2_reachability" - L2 reachability, • "link_flapping" - Link flapping, • "crc_errors" - CRC errors, • "vswitch_link" - vSwitch link
ipspace		string optional	IPspace Name Attributes: key, non-creatable, non-modifiable

Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-duplex		string optional	Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage

administrative-flowcontrol		string optional	Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable
administrative-speed		string optional	Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
autorevert-delay	**[0..2^32-1]**	integer optional	For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable
broadcast-domain		broadcast-domain-name optional	Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable
health-degraded-reasons		netport-degraded-reason[] optional	Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values: • "l2_reachability" - L2 reachability, • "link_flapping" - Link flapping, • "crc_errors" - CRC errors, • "vswitch_link" - vSwitch link
health-status		netport-health-status optional	Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values: • "healthy" , • "degraded"
ifgrp-distribution-function		string optional	For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
ifgrp-mode		string optional	For a port of type 'ifgrp', specifies the link policy. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time'

			Attributes: non-creatable, non-modifiable
ifgrp-node		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable
ifgrp-port		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable
ignore-health-status		boolean optional	Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable
ipspace		string optional	Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable
is-administrative-auto-negotiate		boolean optional	Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable
is-administrative-up		boolean optional	If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable
is-operational-auto-negotiate		boolean optional	True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable
link-status		string optional	Specifies the link status of the port. Possible values: • 'unknown - Port status unknown', • 'up - Port is up', • 'down - Port is down' Attributes: non-creatable, non-modifiable
mac-address		string optional	Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable
mtu	**[0..2^32-1]**	integer optional	Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable
mtu-admin	**[0..2^32-1]**	integer optional	Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable
node		string optional	Specifies the name of node. Attributes: key, required-for-create, non-modifiable
operational-duplex		string optional	Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage
operational-flowcontrol		string optional	Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable
operational-speed		string optional	Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second,

			• "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
port		string optional	Specifies the name of port. Attributes: key, required-for-create, non-modifiable
port-type		string optional	Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values: • "physical" - Physical network interface, • "if_group" - Logical interface group (IEEE 802.3, section 43), • "vlan" - Virtual LAN (IEEE 802.1Q), • "undef" - No defined port type, • "vip" - Virtual network interface for Virtual IP, • "pvlan" - Pseudo Virtual LAN
remote-device-id		string optional	Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable
role		string optional	This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable
vlan-id	**[0..2^32-1]**	integer optional	For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable
vlan-node		string optional	Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable
vlan-port		string optional	For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable
vm-network-name		string optional	Virtual Machine network name Attributes: non-creatable, non-modifiable

Element definition: **net-port-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network port object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
net-key		net-port-info	The keys for the given network port object to which the modify operation applies.

Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

Element definition: **net-subnet-info**

[top]

Layer 3 subnet configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
available-count	**[0..2^32-1]**	integer optional	Number of available pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable
broadcast-domain		broadcast-domain-name optional	Layer 2 broadcast domain name that the subnet belongs to. Attributes: required-for-create, non-modifiable
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. Attributes: optional-for-create, modifiable
gateway		ip-address optional	The gateway for the default route of the subnet. Attributes: optional-for-create, modifiable
ip-ranges		ip-range[] optional	The list of IP address ranges associated with the subnet. Attributes: optional-for-create, modifiable
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. Attributes: key, non-creatable, non-modifiable
subnet		ip-and-mask optional	Layer 3 Subnet Attributes: required-for-create, modifiable
subnet-name		subnet-name optional	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. Attributes: key, required-for-create, non-modifiable
total-count	**[0..2^32-1]**	integer optional	Number of addresses pre-allocated for the subnet. Attributes: non-creatable, non-modifiable
used-count	**[0..2^32-1]**	integer optional	Number of addresses used from pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable

Element definition: **net-subnets-for-broadcast-domain-info**

[top]

Subnets associated with Layer 2 broadcast domain configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domain		broadcast-domain-name optional	The name of the layer 2 broadcast domain. Attributes: key, non-creatable, non-modifiable
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. Attributes: key, non-creatable, non-modifiable
subnets		subnets-info[] optional	Subnet information.

Element definition: **net-tuning-icmp-options**

[top]

ICMP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-drop-redirect-enabled		boolean optional	Drop redirect ICMP Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
redirect-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable
tx-icmp-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMP packets sent per second Attributes: non-creatable, modifiable

Element definition: **net-tuning-icmp6-options**

[top]

ICMPv6 Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-v6-redirect-accepted		boolean optional	Accept redirects via ICMPv6 Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
redirect-v6-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable
tx-icmp6-err-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMPv6 error messages sent per second Attributes: non-creatable, modifiable

Element definition: **net-tuning-tcp-options**

[top]

TCP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-path-mtu-discovery-enabled		boolean optional	Path MTU discovery enabled Attributes: non-creatable, modifiable
is-rfc3390-enabled		boolean optional	RFC3390 enabled Attributes: non-creatable, modifiable
is-rfc3465-enabled		boolean optional	RFC3465 enabled Attributes: non-creatable, modifiable
is-sack-enabled		boolean optional	SACK support enabled Attributes: non-creatable, modifiable
max-cwnd-increment	**[0..2^32-1]**	integer optional	Maximum congestion window segments incrementation Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **net-vs-routes-info**

[top]

Vserver routes information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-family		ipaddresstype optional	Address family of the route Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
destination		ip-and-mask optional	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, required-for-create, non-modifiable
gateway		ip-address optional	Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, required-for-create, non-modifiable
metric	**[0..2^32-1]**	integer optional	Specify the route metric. If this field is not provided the default will be set to 30 Attributes: optional-for-create, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **net-vs-routes-lif-info**

[top]

Logical Interfaces associated with a route When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-family		ipaddresstype optional	Address Family Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
destination		ip-and-mask optional	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable
gateway		ip-address optional	Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable

lif-names		lif-name[] optional	Specify the Logical Interface(s). Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

Element definition: **netport-ifgrp-name**

[top]

Interface Group Name

[none]

Element definition: **network-type**

[top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

Element definition: **qos-marking**

[top]

QoS Marking Table When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dscp	**[0..63]**	integer optional	DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48. Attributes: non-creatable, modifiable
ipspace		string optional	IPspace Name. Attributes: key, non-creatable, non-modifiable
is-enabled		boolean optional	QoS Marking status. Default setting is false. Attributes: non-creatable, modifiable
protocol		string optional	Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP. Attributes: key, non-creatable, non-modifiable

Element definition: **receive-buffer**

[top]

Receive buffer window size configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
network		network-type	The network topology classification Attributes: key, required-for-create, non-modifiable Possible values: • "wan" ,

		optional	• "lan" , • "undefined"
protocol		protocol-layer4 optional	The network layer 4 protocol type Attributes: key, required-for-create, non-modifiable Possible values: • "udp" - UDP, • "tcp" - TCP, • "na" - not_available
receive-auto-tune		boolean optional	If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases. Attributes: required-for-create, modifiable
receive-buffer	**[256..7168]**	integer optional	If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases. Attributes: required-for-create, modifiable
service		stream-protocol-service optional	The stream protocol connection classification Attributes: key, required-for-create, non-modifiable Possible values: • "mount" - Mount stream protocol, • "nfs" - NFS stream protocol, • "nfs_v3" - NFS version 3 stream protocol, • "nlm_v4" - Network lock manager stream protocol, • "sm" - Session Manager stream protocol, • "ftp_ctrl" - FTP control stream protocol, • "ftp_data" - FTP data stream protocol, • "http_1_0" - HTTP version 1 stream protocol, • "http_1_1" - HTTP version 1.1 stream protocol, • "iscsi" - ISCSI stream protocol, • "cifs_srv" - CIFS server stream protocol, • "cifs_nam" - CIFS name server stream protocol, • "loopback" - loopback stream protocol, • "rf" - RC stream protocol, • "rawscp" - Raw secure copy stream protocol, • "discard" - Discard stream protocol, • "port_map" - Port map stream protocol, • "pass_thru" - Passthru stream protocol, • "rclopcp" - Rc connection stream protocol, • "nfs_v4" - NFS version 4 stream protocol, • "fcache" - 7 Mode FlexCache stream protocol, • "ctlopcp" - Ct connection stream protocol, • "rquota" - Rquota stream protocol, • "cifs_msrpc" - CIFS MsRpc stream protocol, • "http" - HTTP stream protocol, • "unknown" - unknown protocol, • "s3" - S3 stream protocol, • "sdapi" - SDAPI stream protocol

Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **stream-protocol-service**

[top]

The stream protocol connection classification Possible values:

- "mount" - Mount stream protocol,
- "nfs" - NFS stream protocol,
- "nfs_v3" - NFS version 3 stream protocol,
- "nlm_v4" - Network lock manager stream protocol,
- "sm" - Session Manager stream protocol,
- "ftp_ctrl" - FTP control stream protocol,
- "ftp_data" - FTP data stream protocol,
- "http_1_0" - HTTP version 1 stream protocol,
- "http_1_1" - HTTP version 1.1 stream protocol,
- "iscsi" - ISCSI stream protocol,
- "cifs_srv" - CIFS server stream protocol,
- "cifs_nam" - CIFS name server stream protocol,
- "loopback" - loopback stream protocol,
- "rf" - RC stream protocol,
- "rawscp" - Raw secure copy stream protocol,
- "discard" - Discard stream protocol,
- "port_map" - Port map stream protocol,
- "pass_thru" - Passthru stream protocol,
- "rclopcp" - Rc connection stream protocol,
- "nfs_v4" - NFS version 4 stream protocol,
- "fcache" - 7 Mode FlexCache stream protocol,
- "ctlopcp" - Ct connection stream protocol,
- "rquota" - Rquota stream protocol,
- "cifs_msrpc" - CIFS MsRpc stream protocol,
- "http" - HTTP stream protocol,
- "unknown" - unknown protocol,
- "s3" - S3 stream protocol,
- "sdapi" - SDAPI stream protocol

[none]

Element definition: **subnet-name**

[top]

Name of Subnet

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **vif-owner-name**

[top]

Vserver

[none]

Element definition: **vip-port-info**

[top]

VIP Port Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ipspace		string optional	IPspace Name Attributes: required-for-create, non-modifiable
node		node-name optional	Node Attributes: key, required-for-create, non-modifiable
port		net-port optional	Network Port Attributes: key, required-for-create, non-modifiable

Element definition: **vlan-info**

[top]

vlan

Name	Range	Type	Description
gvrp-enabled		boolean optional	true: GVRP is enabled. Default is false. GVRP is deprecated and this attribute is ignored in cluster mode. GVRP is a standard vlan trunking protocol that enables a port to advertise which vlans it trunks, thereby decreasing traffic over the trunk. This protocol eliminates the need to manually configure vlan information on each switch in the network.
interface-name		string optional	Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid>
node		string optional	Node name of vlan interface.
parent-interface		string	The interface that hosts the vlan interface.
skip-broadcast-domain-placement		boolean optional	true: placement of the vlan port into a broadcast domain will be skipped. Default is false.

vlanid		integer	The vlan id. Range: 1..4094.

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **bgp-session-state**

[top]

BGP Session State Possible values:

- "unknown" ,
- "up" ,
- "down"

[none]

Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,

"cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

Element definition: **detect-switchless-cluster-info**

[top]

Network options detect-switchless-cluster typedef

Name	Range	Type	Description
enabled		boolean optional	Enable Switchless Cluster Detection Attributes: non-creatable, modifiable

Element definition: **device-capability**

[top]

router|trans-bridge|source-route-bridge|switch|host|igmp|repeater|phone Possible values:

- "router" - Router,
- "trans_bridge" - Trans Bridge,
- "source_route_bridge" - Source Route Bridge,
- "switch" - Switch,
- "host" - Host,
- "igmp" - IGMP,
- "repeater" - Repeater,
- "phone" - Phone

[none]

Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **failover-group** [top]

Specifies the failover group name.

[none]

Element definition: **filer-id** [top]

Filer UUID

[none]

Element definition: **fw-service** [top]

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **ip-range** [top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

Element definition: **ipv6-options-info**

[top]

Network options ipv6 typedef

Name	Range	Type	Description
enabled		boolean optional	IPv6 Enabled Attributes: non-creatable, modifiable
is-ipv6-ra-processing-enabled		boolean optional	Router Advertisement (RA) Processing Enabled Attributes: non-creatable, modifiable

Element definition: **lif-bindable**

[top]

|

[none]

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

Element definition: **mac-address**

[top]

MAC Address

[none]

Element definition: **nd-state**

[top]

Possible values:

- "nostate" - No State,
- "incomplete" - Incomplete,
- "reachable" - Reachable,
- "stale" - Stale,
- "delay" - Delay,
- "probe" - Probe,
- "unknown" - Unknown State

[none]

Element definition: **ndp-expire-time**

[top]

Expire Time Interval

[none]

Element definition: **ndp-prefix-flag**

[top]

none|on-link|autonomous|on-link-autonomous Possible values:

- "none" - None,
- "on_link" - On-link Prefix,
- "autonomous" - Autonomous Prefix,
- "on_link_autonomous" - On-link and Autonomous Prefix

[none]

Element definition: **ndp-prefix-lifetime**

[top]

Prefix Lifetime in seconds

[none]

Element definition: **ndp-prefix-origin**

[top]

router-advertise|renumber-request|static|kernel|unknown Possible values:

- "unknown" - Unknow,
- "router_advertise" - Router Advertise,
- "renumber_request" - Renumber Request,
- "static" - Static,
- "kernel" - Kernel

[none]

Element definition: **ndp-ra-flag**

[top]

none|managed-address-DHCPv6|other-DHCPv6 Possible values:

- "none" - None,
- "managed_address_dhcpv6" - Managed Address from DHCPv6,
- "other_dhcpv6" - Other Configuration from DHCPv6

[none]

Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-		boolean	Specifies whether firewall protection is enabled (true) or disabled (false) for the node's network ports. The default setting is true. Attributes: non-

enabled		optional	creatable, modifiable
is-logging		boolean optional	This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable
node-name		node-name optional	Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable

Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
address-family		string optional	Address family Attributes: non-creatable, non-modifiable
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down', Attributes: optional-for-create, modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
current-node		string optional	The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable
current-port		string optional	The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable
			Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values:

data-protocols		data-protocol[] optional	• "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols., • "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable
extended-status		string optional	Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable
failover-group		failover-group optional	Specifies the failover group name. Attributes: optional-for-create, modifiable
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt', • 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster' Attributes: optional-for-create, modifiable
force-subnet-association		boolean optional	Force the LIF's Subnet Association Attributes: optional-for-create, modifiable
home-node		string optional	Specifies the LIF's home node. Attributes: optional-for-create, modifiable
home-port		string optional	Specifies the LIF's home port. Attributes: optional-for-create, modifiable
interface-name		string optional	Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	IPspace of LIF Attributes: non-creatable, non-modifiable
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level Attributes: optional-for-create, modifiable
is-home		boolean optional	True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable

is-ipv4-link-local		boolean optional	If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable
is-vip		boolean optional	Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable
lif-uuid		uuid optional	Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable
operational-status		string optional	Specifies the operational status of the LIF. Possible values: • 'up', • 'down', Attributes: non-creatable, non-modifiable
probe-port	**[0..2^32-1]**	integer optional	Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable
role		string optional	Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values: • "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable
service-names		lif-service-name[] optional	Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable
service-policy		string optional	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: • 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster'

			Attributes: optional-for-create, modifiable
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string optional	Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable
wwpn		string optional	Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-duplex		string optional	Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage

administrative-flowcontrol		string optional	Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable
administrative-speed		string optional	Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
autorevert-delay	**[0..2^32-1]**	integer optional	For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable
broadcast-domain		broadcast-domain-name optional	Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable
health-degraded-reasons		netport-degraded-reason[] optional	Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values: • "l2_reachability" - L2 reachability, • "link_flapping" - Link flapping, • "crc_errors" - CRC errors, • "vswitch_link" - vSwitch link
health-status		netport-health-status optional	Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values: • "healthy" , • "degraded"
ifgrp-distribution-function		string optional	For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
ifgrp-mode		string optional	For a port of type 'ifgrp', specifies the link policy. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time' Attributes: non-creatable, non-modifiable

ifgrp-node		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable
ifgrp-port		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable
ignore-health-status		boolean optional	Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable
ipspace		string optional	Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable
is-administrative-auto-negotiate		boolean optional	Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable
is-administrative-up		boolean optional	If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable
is-operational-auto-negotiate		boolean optional	True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable
link-status		string optional	Specifies the link status of the port. Possible values: • 'unknown - Port status unknown', • 'up - Port is up', • 'down - Port is down' Attributes: non-creatable, non-modifiable
mac-address		string optional	Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable
mtu	**[0..2^32-1]**	integer optional	Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable
mtu-admin	**[0..2^32-1]**	integer optional	Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable
node		string optional	Specifies the name of node. Attributes: key, required-for-create, non-modifiable
operational-duplex		string optional	Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage
operational-flowcontrol		string optional	Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable
operational-speed		string optional	Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second,

			• "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
port		string optional	Specifies the name of port. Attributes: key, required-for-create, non-modifiable
port-type		string optional	Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values: • "physical" - Physical network interface, • "if_group" - Logical interface group (IEEE 802.3, section 43), • "vlan" - Virtual LAN (IEEE 802.1Q), • "undef" - No defined port type, • "vip" - Virtual network interface for Virtual IP, • "pvlan" - Pseudo Virtual LAN
remote-device-id		string optional	Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable
role		string optional	This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable
vlan-id	**[0..2^32-1]**	integer optional	For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable
vlan-node		string optional	Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable
vlan-port		string optional	For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable
vm-network-name		string optional	Virtual Machine network name Attributes: non-creatable, non-modifiable

Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

Element definition: **netport-health-status**

[top]

healthy|degraded Possible values:

- "healthy" ,
- "degraded"

[none]

Element definition: **network-type** [top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **port-info** [top]

Port information.

Name	Range	Type	Description
port		net-qualified-port-name optional	Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name Attributes: optional-for-create, non-modifiable
port-update-status		broadcast-domain-port-status optional	Status for each port's updates to match the broadcast domain. See port-update-status-details for detailed error text. Attributes: non-creatable, non-modifiable Possible values: • "complete" - Port updates are complete and values match the broadcast domain, • "in_progress" - Port values are being updated to match the broadcast domain, • "error" - An error was encountered and values do not match the broadcast domain, • "overridden_while_offline" - Port values were overriden while offline
port-update-status-details		string optional	Descriptions of each port's update status. When the status is 'error', this field will contain text describing the error. Attributes: non-creatable, non-modifiable

Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

Element definition: **service-port-info**

[top]

TCP/UDP Port Information

Name	Range	Type	Description
port	**[0..2^32-1]**	integer optional	The list of TCP and UDP ports that the service will listen on. Attributes: non-creatable, non-modifiable
protocol		fw-policy-protocol optional	The IP protocol associated with each port number. Attributes: non-creatable, non-modifiable Possible values: • "tcp" - Applies only to TCP, • "udp" - Applies only to UDP, • "tcp_udp" - Applies to both TCP and UDP, • "icmp" - Applies only to ICMP, • "ipv6_icmp" - Applies only to IPv6-ICMP, • "undef" - Undefined, • "esp" - Applies only to ESP

Element definition: **subnet-name**

[top]

Name of Subnet

[none]

Element definition: **subnets-info**

[top]

Subnet information.

Name	Range	Type	Description
subnet		ip-and-mask optional	The list of subnets associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable

Element definition: **svc-failover-policy**

[top]

svc_failover_policy Possible values:

- "unrestricted" - Service has no restrictions on LIF failover,
- "home_port_only" - Service requires that LIFs do not fail off their home port,
- "home_node_only" - Service requires that LIFs do not fail off their home node,
- "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner

[none]

Element definition: **svc-vserver-policy**

[top]

svc_vserver_policy Possible values:

- "unrestricted" - Service has no vserver restrictions,
- "system_only" - Service is only compatible with system vservers,
- "data_only" - Service is only compatible with data vservers,
- "cluster_only" - Service is only compatible with cluster vservers

[none]

Element definition: **switchless-cluster-info**

[top]

Network options switchless-cluster typedef

Name	Range	Type	Description
enabled		boolean optional	Enable Switchless Cluster Attributes: non-creatable, modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-bgp-state**

[top]

unknown|unconfigured|up|down Possible values:

- "unknown" - Fail to query BGP sessions state,
- "unconfigured" - BGP is not configured,
- "up" - At lease one BGP session is up,
- "down" - No BGP sessions are up

[none]

Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

Element definition: **fw-policy-protocol**

[top]

fw_policy_protocol Possible values:

- "tcp" - Applies only to TCP,
- "udp" - Applies only to UDP,
- "tcp_udp" - Applies to both TCP and UDP,
- "icmp" - Applies only to ICMP,
- "ipv6_icmp" - Applies only to IPv6-ICMP,
- "undef" - Undefined,
- "esp" - Applies only to ESP

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

APIs in Category: **netgroup**

netgroups-file-delete
netgroups-file-get
netgroups-file-get-iter

netgroups-file-delete

[top]

Destroy an existing netgroups file configuration.

Input Name	Range	Type	Description
vserver-name		vserver-name	Specifies the Vserver for the local netgroup file.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

netgroups-file-get

[top]

Get netgroups file configuration.

Input Name	Range	Type	Description
desired-attributes		netgroups-file-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
domain		string optional	Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'.
host		string optional	Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'.
member-netgroup		string optional	Specifies the name of a member netgroup contained within this netgroup.
netgroup-name		string optional	Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access.

user		string optional	Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'.
vserver		vserver-name	Specifies the Vserver for the local netgroup file.

Output Name	Range	Type	Description
attributes		netgroups-file-config-info	The attributes of the netgroup

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

netgroups-file-get-iter

[top]

Iterate over a list of netgroups file configurations.

Input Name	Range	Type	Description
desired-attributes		netgroups-file-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		netgroups-file-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Netgroups file configuration object. All Netgroups file configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		netgroups-file-config-info[] optional	The list of attributes of Netgroups file configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Netgroups file configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

Element definition: **netgroups-file-config-info**

[top]

Netgroups file configuration information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
domain		string optional	Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable
host		string optional	Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable
member-netgroup		string optional	Specifies the name of a member netgroup contained within this netgroup. Attributes: non-creatable, non-modifiable
netgroup-name		string optional	Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access. Attributes: non-creatable, non-modifiable
user		string optional	Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the local netgroup file. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **nfs**

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nfs-status

nfs-disable

[top]

In Data ONTAP 7-Mode, this API will disable NFS server access (effectively same as the CLI command "nfs off") In Data ONTAP Cluster-Mode, this will stop the Vserver's NFS service. If the NFS service was not explicitly created, this API does nothing.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-enable

[top]

In Data ONTAP 7-Mode, this API will enable NFS server access (effectively same as the CLI command "nfs on") In Data ONTAP Cluster-Mode, this will start the Vserver's NFS service. If the NFS service was not explicitly created, this API will create one with default options.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-append-rules

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rules		exports-rule-info[]	List of rules to add to the exports table.
verbose		boolean optional	If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false.

Output Name	Range	Type	Description

exported-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames were successfully appended. Only returned if verbose option is set.
loaded-pathnames		pathname-info[] optional	Verbose output of what pathnames were successfully appended Only returned if verbose option is set.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-append-rules-2

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent. The new security-rule-info structure contains finer grained information about security rules than exports-rule-info.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rules		exports-rule-info-2[]	List of rules to add to the exports table.
verbose		boolean optional	If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false.

Output Name	Range	Type	Description
exported-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames

			were successfully appended. Only returned if verbose option is set.
loaded-pathnames		pathname-info[] optional	Verbose output of what pathnames were successfully appended Only returned if verbose option is set.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-check-permission

[top]

Returns true if the host IP has mount permissions for a specified path.

Input Name	Range	Type	Description
host		string	IP address of the host to check in dotted decimal format: AAA.BBB.CCC.DDD
pathname		string	Returns the permissions for this path.
permission		string	Possible values: "read-only", "read-write", and "root".

Output Name	Range	Type	Description
is-permissible		boolean	True if host has permission to the path.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-delete-rules

[top]

Removes the rules for a set of pathnames. This returns an error if any of the pathnames don't have a rule. In the Data ONTAP 7-Mode, set the persistent option to modify the etc/exports file and keep this change persistent upon reboots whereas it must be true in Data ONTAP Cluster-Mode as the export

entries are always persistent.

Input Name	Range	Type	Description
all-pathnames		boolean optional	Default value is false. Set to true to delete all rules. 'pathnames' option must be left empty if this option is true.
pathnames		pathname-info[] optional	In the Data ONTAP 7-Mode, these must be the pathnames to be deleted from the exports table. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. Modify the etc/exports file to delete the rules permanently. CAUTION: If 'all-pathnames' and 'persistent' are both true, all exports are removed permanently. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
verbose		boolean optional	Return a verbose output of what occurred. If there is an error after deleting only a few rules, 'deleted-pathnames' will return which rules were deleted. Default value is false.

Output Name	Range	Type	Description
deleted-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports table in memory. Only returned if verbose option is set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported.
unexported-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-fence-disable

[top]

Disables fencing to the given exports for the given entry. This means that the entry will have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

Input Name	Range	Type	Description
all-pathnames		boolean optional	Default value is false. Set to true to unfence all rules. 'fenced-paths' option must be left empty if this option is true.
fenced-hosts		exports-hostname-info[]	An array of hostnames which are to be fenced off.

fenced-paths		pathname-info[] optional	An array of paths which are to be fenced off.
persistent		boolean optional	Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory.
remove-locks		boolean optional	Default value is false. Set to true to reclaim locks of the specified fenced-hosts.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-fence-enable

[top]

Enables fencing to the given exports for the given entry. This means that the entry will not have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

Input Name	Range	Type	Description
all-pathnames		boolean optional	Default value is false. Set to true to fence all rules. 'fenced-paths' option must be left empty if this option is true.
fenced-hosts		exports-hostname-info[]	An array of hostnames which are to be fenced off.
fenced-paths		pathname-info[] optional	An array of paths which are to be fenced off.
persistent		boolean optional	Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-flush-cache

[top]

For the given path, renew or flush the access cache.

Input Name	Range	Type	Description
pathname		string optional	Pathname to flush. If this input is not provided, all of the paths in the exports table are flushed.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-list-rules

[top]

Returns the export rules that were configured with a single security flavor. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

Input Name	Range	Type	Description
pathname		string optional	The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned.

Output Name	Range	Type	Description
rules		exports-rule-info[]	Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory.

Errno	Description
EINTERNALERROR	
EEXPORTSINCOMPATIBLE	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-list-rules-2

[top]

Returns the export rules that were configured with more than one security flavor, using the new security info structure. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

Input Name	Range	Type	Description
pathname		string optional	The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned.

Output Name	Range	Type	Description
rules		exports-rule-info-2[]	Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-load-exports

[top]

Loads the etc/exports file into memory. Replaces exports rules already residing in memory.

Input Name	Range	Type	Description
persistent-only		boolean optional	Default value is false. If true, atomically reloads each rule from the exports file and unloads all other rules.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-modify-rule

[top]

Functionally similar to append with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rule		exports-rule-info	The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

nfs-exportfs-modify-rule-2

[top]

Functionally similar to append-2 with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rule		exports-rule-info-2	The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory.

Errno	Description

EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

nfs-exportfs-storage-path

[top]

For the given path, determine the actual storage path. Returns an error if the path does not exist.

Input Name	Range	Type	Description
pathname		string	Virtual pathname which has a rule associated with an actual pathname.

Output Name	Range	Type	Description
actual-pathname		string	True path name on the filer, which uses a virtual path for interfacing with the NFS.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-get-supported-sec-flavors

[top]

Returns a list of currently supported security flavors. Hosts with permmisions and connecting via the proper security flavor have access to directories on the filer. Default security flavor for all exports is "sys".

Output Name	Range	Type	Description
sec-flavor		sec-flavor-info[]	List of possible security flavors NFS supports.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License

License
nfs

nfs-monitor-add

[top]

starts monitoring the specified hosts for NFS lock recovery purposes. The specified hosts are added to the list of of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

Input Name	Range	Type	Description
hosts		hostaddr[]	an array of hosts that are to be monitored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-list

[top]

Lists the hosts that are currently being monitored by the NFS status monitor.

Output Name	Range	Type	Description
hosts		hostaddr[]	an array of hosts that are currently being monitored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-reclaim

[top]

reclaims the NFS locks for the specified client hosts. If no hosts are specified, then all the clients locks are removed and are notified about lock recovery, as if an NFS server crash/reboot had happened. If any hosts are specified, then only those client hosts locks are reclaimed For more information, see the sm_mon(1a) manual page.

Input Name	Range	Type	Description

hosts		hostaddr[] optional	hosts whose locks have to be reclaimed. If no hosts are specified, then all the clients locks are reclaimed.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-remove

[top]

Starts unmonitoring the specified hosts for NFS lock recovery purposes. The specified hosts are removed from the list of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

Input Name	Range	Type	Description
hosts		hostaddr[]	an array of hosts that are to be unmonitored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-remove-locks

[top]

removes the NFS locks of a specfied process of a specified client host.

Input Name	Range	Type	Description
owners		owner-info[]	List of owners whose locks have to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-service-create

[top]

Create a new NFS configuration.

Input Name	Range	Type	Description
allow-idle-connection-timeout		boolean optional	Are Idle NFS Connections Supported
auth-sys-extended-groups		boolean optional	If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'.
cached-cred-harvest-timeout	**[60000..604800000]**	integer optional	Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-cred-negative-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms.
cached-cred-positive-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-transient-err-ttl	**[30000..300000]**	integer optional	Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms.
chown-mode		nfschownmode optional	Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values: • "restricted" , • "unrestricted" , • "use_export_policy"
default-windows-group		string optional	The default windows group for CIFS access.
default-windows-user		string optional	The default windows user for CIFS access.
enable-ejukebox		boolean optional	If 'true', then the NFS server will send EJUKEBOX error on server delays.
extended-groups-limit	**[32..1024]**	integer optional	Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32.
			Number of I/O operations on a file to be

file-session-io-grouping-count	**[1000..20000]**	integer optional	grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000.
file-session-io-grouping-duration	**[60..600]**	integer optional	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s.
hadoop-allow-non-root-mount		boolean optional	Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled.
idle-connection-timeout	**[120..86400]**	integer optional	Idle Connection Timeout Value (in seconds)
ignore-nt-acl-for-root		boolean optional	If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'.
is-checksum-enabled-for-replay-cache		boolean optional	Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests.
is-mount-rootonly-enabled		boolean optional	If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'.
is-netgroup-dns-domain-search		boolean optional	If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'.
is-nfs-access-enabled		boolean optional	If 'true',then NFS server access is enabled. Default value is 'true'.
is-nfs-rootonly-enabled		boolean optional	If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'.
is-nfsv2-enabled		boolean optional	Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'.
is-nfsv3-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'.
is-nfsv3-connection-drop-enabled		boolean optional	If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'.
is-nfsv3-enabled		boolean optional	If 'true', then NFS version 3 is enabled. Default value is 'true'.
is-nfsv3-fsid-change-enabled		boolean optional	If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'.
is-nfsv4-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'.
is-nfsv4-fsid-change-enabled		boolean optional	If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'.
is-nfsv4-		boolean	If 'true', then NFSv4 support for Numeric

numeric-ids-enabled		optional	Owner IDs is enabled. Default value is 'true'.
is-nfsv4-storepool-limit-enforce-enabled		boolean optional	(DEPRECATED)-If 'true', then NFS version 4 StorePool limit enforce feature is enabled. Default value is 'false'.
is-nfsv40-acl-enabled		boolean optional	If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'.
is-nfsv40-enabled		boolean optional	If 'true', then NFS version 4.0 is enabled. Default value is 'false'.
is-nfsv40-migration-enabled		boolean optional	If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'.
is-nfsv40-read-delegation-enabled		boolean optional	If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'.
is-nfsv40-referrals-enabled		boolean optional	If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'.
is-nfsv40-req-open-confirm-enabled		boolean optional	If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'.
is-nfsv40-write-delegation-enabled		boolean optional	If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'.
is-nfsv41-acl-enabled		boolean optional	If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'.
is-nfsv41-acl-preserve-enabled		boolean optional	If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances.
is-nfsv41-enabled		boolean optional	If 'true', then NFS version 4.1 is enabled. Default value is 'false'.
is-nfsv41-migration-enabled		boolean optional	If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'.
is-nfsv41-pnfs-enabled		boolean optional	If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'.
is-nfsv41-read-delegation-enabled		boolean optional	If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'.
is-nfsv41-referrals-enabled		boolean optional	If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'.
is-nfsv41-sequence-admin-revoked-enabled		boolean optional	If 'true', then NFS version 4.1 Sequence Admin Revoked support is enabled. Default value is 'false'.
is-nfsv41-state-protection-enabled		boolean optional	If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'.
is-nfsv41-trunking-enabled		boolean optional	If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'.
is-nfsv41-write-delegation-		boolean	If 'true', NFSv4.1 write delegation feature is enabled. Default value is

enabled		optional	'false'.
is-nfsv42-seclabel-enabled		boolean optional	If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'.
is-nfsv42-sparsefile-ops-enabled		boolean optional	If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'.
is-nfsv42-xattrs-enabled		boolean optional	If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'true'.
is-rdma-enabled		boolean optional	If 'true', then enable NFS access over RDMA. Default value is 'true'.
is-restrict-chmod-acl		nfsrestrictchmodacl optional	If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values: • "unrestricted" , • "restricted"
is-rquota-enabled		boolean optional	If 'true', then rquota is enabled. Default value is 'false'.
is-tcp-enabled		boolean optional	If 'true', then enable NFS access over TCP. Default value is 'true'.
is-udp-enabled		boolean optional	If 'true', then enable NFS access over UDP. Default value is 'true'.
is-v3-hide-snapshot		boolean optional	Hide .snapshot directory under NFSv3 mount point. Default value is disabled.
is-v3-ms-dos-client-enabled		boolean optional	If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'.
is-validate-qtree-export-enabled		boolean optional	If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'.
is-vstorage-enabled		boolean optional	If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'.
map-unknown-uid-to-default-windows-user		boolean optional	Map Unknown UID to Default Windows User
mountd-port	**[0..2^32-1]**	integer optional	Port that NFS mount daemon is listening to. Default value is 635.
name-service-lookup-protocol		export-lookup-protos optional	Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible values: • "tcp" , • "udp"
netgroup-trust-any-ns-switch-no-match		boolean optional	If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'.

nfsv4-acl-max-aces	**[192..1024]**	integer optional	Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400.
nfsv4-grace-seconds	**[0..2^32-1]**	integer optional	NFSv4 Grace timeout value in seconds. Default value is 45 seconds.
nfsv4-id-domain		string optional	NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'.
nfsv4-lease-seconds	**[0..2^32-1]**	integer optional	NFSv4 Lease timeout value in seconds. Default value is 30 seconds.
nfsv41-implementation-id-domain		string optional	NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'.
nfsv41-implementation-id-name		string optional	NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'.
nfsv41-implementation-id-time		date optional	NFSv4.1 Implementation id time.The number of seconds since January 1, 1970.
nfsv4x-session-num-slots	**[1..2000]**	integer optional	Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180.
nfsv4x-session-slot-reply-cache-size	**[512..4096]**	integer optional	Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640.
nlm-port	**[0..2^32-1]**	integer optional	Port that network lock manager is listening to. Default value is 4045.
nsm-port	**[0..2^32-1]**	integer optional	Port that network status monitor is listening to. Default value is 4046.
ntacl-display-permissive-perms		boolean optional	This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'.
ntfs-unix-security-ops		string optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'.
permitted-enc-types		string[] optional	List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256.
return-record		boolean optional	If set to true, returns the NFS Server on successful creation. Default: false
rpcsec-ctx-high	**[0..2^32-1]**	integer optional	High water mark for the RPCSEC_GSS Context Cache. Default value is 0.
rpcsec-ctx-idle	**[0..2^32-1]**	integer optional	Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0.
rquotad-port	**[0..2^32-1]**	integer optional	Port that NFS quota daemon is listening to. Default value is 4049.

showmount		boolean optional	If 'true', then the Vserver allows showmount. Default value is 'enabled'.
showmount-rootonly		boolean optional	Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled.
skip-root-owner-write-perm-check		boolean optional	If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'.
tcp-max-xfer-size	**[8192..1048576]**	integer optional	TCP Maximum Transfer Size (bytes). The default value is 65536
udp-max-xfer-size	**[8192..57344]**	integer optional	UDP Maximum Transfer Size (bytes). The default value is 32768.
v3-search-unconverted-filename		boolean optional	Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled.
v4-inherited-acl-preserve		boolean optional	Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled.

Output Name	Range	Type	Description
result		nfs-info optional	The NFS Server created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nfs-service-destroy

[top]

Delete an NFS configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nfs-service-get

[top]

Get the NFS server configuration.

Input Name	Range	Type	Description

desired-attributes		nfs-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		nfs-info	The attributes of the NFS Server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

nfs-service-get-create-defaults

[top]

Obtain the default values for NFS server configuration.

Input Name	Range	Type	Description
attributes		nfs-info optional	Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute.

Output Name	Range	Type	Description
defaults		nfs-info	The default attributes for the NFS Server.

nfs-service-get-iter

[top]

Iterate over the list of NFS servers.

Input Name	Range	Type	Description
desired-attributes		nfs-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		nfs-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NFS Server object. All NFS Server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nfs-info[]	The list of attributes of NFS Server objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more NFS Server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nfs-service-modify

[top]

Modify an NFS configuration. If no values are given, the NFS configuration is not modified.

Input Name	Range	Type	Description
allow-idle-connection-timeout		boolean optional	Are Idle NFS Connections Supported
auth-sys-extended-groups		boolean optional	If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'.
cached-cred-harvest-timeout	**[60000..604800000]**	integer optional	Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-cred-negative-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms.
cached-cred-positive-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-transient-err-ttl	**[30000..300000]**	integer optional	Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms.
chown-mode		nfschownmode optional	Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values: • "restricted" , • "unrestricted" , • "use_export_policy"
default-windows-group		string optional	The default windows group for CIFS access.
default-windows-user		string optional	The default windows user for CIFS access.

enable-ejukebox		boolean optional	If 'true', then the NFS server will send EJUKEBOX error on server delays.
extended-groups-limit	**[32..1024]**	integer optional	Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32.
file-session-io-grouping-count	**[1000..20000]**	integer optional	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000.
file-session-io-grouping-duration	**[60..600]**	integer optional	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s.
hadoop-allow-non-root-mount		boolean optional	Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled.
idle-connection-timeout	**[120..86400]**	integer optional	Idle Connection Timeout Value (in seconds)
ignore-nt-acl-for-root		boolean optional	If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'.
is-checksum-enabled-for-replay-cache		boolean optional	Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests.
is-mount-rootonly-enabled		boolean optional	If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'.
is-netgroup-dns-domain-search		boolean optional	If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'.
is-nfs-access-enabled		boolean optional	If 'true',then NFS server access is enabled. Default value is 'true'.
is-nfs-rootonly-enabled		boolean optional	If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'.
is-nfsv2-enabled		boolean optional	Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'.
is-nfsv3-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'.
is-nfsv3-connection-drop-enabled		boolean optional	If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'.
is-nfsv3-enabled		boolean optional	If 'true', then NFS version 3 is enabled. Default value is 'true'.

is-nfsv3-fsid-change-enabled		boolean optional	If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'.
is-nfsv4-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'.
is-nfsv4-fsid-change-enabled		boolean optional	If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'.
is-nfsv4-numeric-ids-enabled		boolean optional	If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'.
is-nfsv4-storepool-limit-enforce-enabled		boolean optional	(DEPRECATED)-If 'true', then NFS version 4 StorePool limit enforce feature is enabled. Default value is 'false'.
is-nfsv40-acl-enabled		boolean optional	If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'.
is-nfsv40-enabled		boolean optional	If 'true', then NFS version 4.0 is enabled. Default value is 'false'.
is-nfsv40-migration-enabled		boolean optional	If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'.
is-nfsv40-read-delegation-enabled		boolean optional	If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'.
is-nfsv40-referrals-enabled		boolean optional	If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'.
is-nfsv40-req-open-confirm-enabled		boolean optional	If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'.
is-nfsv40-write-delegation-enabled		boolean optional	If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'.
is-nfsv41-acl-enabled		boolean optional	If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'.
is-nfsv41-acl-preserve-enabled		boolean optional	If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances.
is-nfsv41-enabled		boolean optional	If 'true', then NFS version 4.1 is enabled. Default value is 'false'.
is-nfsv41-migration-enabled		boolean optional	If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'.
is-nfsv41-pnfs-enabled		boolean optional	If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'.
is-nfsv41-read-delegation-enabled		boolean optional	If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'.
is-nfsv41-referrals-enabled		boolean optional	If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'.
is-nfsv41-sequence-		boolean	If 'true', then NFS version 4.1 Sequence

admin-revoked-enabled		optional	Admin Revoked support is enabled. Default value is 'false'.
is-nfsv41-state-protection-enabled		boolean optional	If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'.
is-nfsv41-trunking-enabled		boolean optional	If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'.
is-nfsv41-write-delegation-enabled		boolean optional	If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'.
is-nfsv42-seclabel-enabled		boolean optional	If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'.
is-nfsv42-sparsefile-ops-enabled		boolean optional	If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'.
is-nfsv42-xattrs-enabled		boolean optional	If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'true'.
is-rdma-enabled		boolean optional	If 'true', then enable NFS access over RDMA. Default value is 'true'.
is-restrict-chmod-acl		nfsrestrictchmodacl optional	If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values: • "unrestricted" , • "restricted"
is-rquota-enabled		boolean optional	If 'true', then rquota is enabled. Default value is 'false'.
is-tcp-enabled		boolean optional	If 'true', then enable NFS access over TCP. Default value is 'true'.
is-udp-enabled		boolean optional	If 'true', then enable NFS access over UDP. Default value is 'true'.
is-v3-hide-snapshot		boolean optional	Hide .snapshot directory under NFSv3 mount point. Default value is disabled.
is-v3-ms-dos-client-enabled		boolean optional	If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'.
is-validate-qtree-export-enabled		boolean optional	If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'.
is-vstorage-enabled		boolean optional	If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'.
map-unknown-uid-to-default-windows-user		boolean optional	Map Unknown UID to Default Windows User
mountd-port	**[0..2^32-1]**	integer optional	Port that NFS mount daemon is listening to. Default value is 635.
			Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible

name-service-lookup-protocol		export-lookup-protos optional	values: • "tcp" , • "udp"
netgroup-trust-any-ns-switch-no-match		boolean optional	If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'.
nfsv4-acl-max-aces	**[192..1024]**	integer optional	Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400.
nfsv4-grace-seconds	**[0..2^32-1]**	integer optional	NFSv4 Grace timeout value in seconds. Default value is 45 seconds.
nfsv4-id-domain		string optional	NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'.
nfsv4-lease-seconds	**[0..2^32-1]**	integer optional	NFSv4 Lease timeout value in seconds. Default value is 30 seconds.
nfsv41-implementation-id-domain		string optional	NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'.
nfsv41-implementation-id-name		string optional	NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'.
nfsv41-implementation-id-time		date optional	NFSv4.1 Implementation id time.The number of seconds since January 1, 1970.
nfsv4x-session-num-slots	**[1..2000]**	integer optional	Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180.
nfsv4x-session-slot-reply-cache-size	**[512..4096]**	integer optional	Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640.
nlm-port	**[0..2^32-1]**	integer optional	Port that network lock manager is listening to. Default value is 4045.
nsm-port	**[0..2^32-1]**	integer optional	Port that network status monitor is listening to. Default value is 4046.
ntacl-display-permissive-perms		boolean optional	This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'.
ntfs-unix-security-ops		string optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'.
permitted-enc-types		string[] optional	List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des,

			des-3, aes-128, and aes-256.
rpcsec-ctx-high	**[0..2^32-1]**	integer optional	High water mark for the RPCSEC_GSS Context Cache. Default value is 0.
rpcsec-ctx-idle	**[0..2^32-1]**	integer optional	Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0.
rquotad-port	**[0..2^32-1]**	integer optional	Port that NFS quota daemon is listening to. Default value is 4049.
showmount		boolean optional	If 'true', then the Vserver allows showmount. Default value is 'enabled'.
showmount-rootonly		boolean optional	Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled.
skip-root-owner-write-perm-check		boolean optional	If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'.
tcp-max-xfer-size	**[8192..1048576]**	integer optional	TCP Maximum Transfer Size (bytes). The default value is 65536
udp-max-xfer-size	**[8192..57344]**	integer optional	UDP Maximum Transfer Size (bytes). The default value is 32768.
v3-search-unconverted-filename		boolean optional	Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled.
v4-inherited-acl-preserve		boolean optional	Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nfs-stats-get-client-stats

[top]

Collects NFS statistics for a specified client

Input Name	Range	Type	Description
host		string	Hostname or IP address of client

Output Name	Range	Type	Description
client-info		string	Hostname or IP address of client
nfs-stats		nfs-stats-info	detailed statistics for each NFS operation
rpc-stats		rpc-stats-info	detailed statistics for RPC operations
tcp-flowcontrol-stats		tcp-flowcontrol-stats-info	detailed statistics for TCP flowcontrol

Errno	Description
ENFS_CLIENT_STATS_NOT_ENABLED	
ENOACTIVECLIENTS	
EHOSTNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-stats-top-clients-list-iter-end

[top]

Terminate NFS client statistics iteration and cleanup any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous nfs-stats-top-clients-list-iter-start

Vfiler-enabled
Yes

License
nfs

nfs-stats-top-clients-list-iter-next

[top]

Continues the nfs-stats-top-clients-list-iter-start iteration through the top NFS clients, ordered by total NFS operations.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range : [0..2^32-1].
tag		string	Tag from a previous nfs-stats-top-iter-start

Output Name	Range	Type	Description
nfs-top		nfs-top-info[]	An array, one entry per nfs top.
records		integer	This tells you how many records are being returned from this particular call to nfs-stats-top-client-list-iter-next When this value is 0, you have retrieved everything. Range : [0..2^32-1].

Vfiler-enabled
Yes

License
nfs

nfs-stats-top-clients-list-iter-start

[top]

Starts an iteration through the top NFS clients, ordered by total NFS operations.

Input Name	Range	Type	Description
maxclients		integer optional	Specifies the maximum number of top clients to retrieve (the default is 20) Range : [1..2^32-1].

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with nfs-stats-top-clients-list-iter-next Range : [0..2^32-1]
tag		string	Tag to be used in subsequent calls to nfs-stats-top-clients-list-iter-next

Errno	Description
ENFS_CLIENT_STATS_NOT_ENABLED	
ECLIENTSTATSVFILER	
ENOACTIVECLIENTS	
EAPIERROR	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
nfs

nfs-stats-zero-stats

[top]

Set all NFS statistcs to zero

Vfiler-enabled
Yes

License
nfs

nfs-status

[top]

Returns the status of the NFS server.

Output Name	Range	Type	Description
is-drained		boolean	If true, then the NFS server has been disabled and all NFS messages have been drained. In Data ONTAP Cluster-Mode, there is no way of finding out if the NFS messages have been drained. Hence this field will always be false.
is-enabled		boolean	True if NFS server is running.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

Name	Range	Type	Description
all-hosts		boolean optional	Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array.
			A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS.

name		string optional	netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.'
negate		boolean optional	In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true.

Element definition: **exports-rule-info**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the exportfs command. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

Name	Range	Type	Description
actual-pathname		string optional	In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string.
anon		string optional	All hosts with this user-id or username have root access to this directory.
nosuid		boolean optional	If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false.
pathname		string	In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").
read-only		exports-hostname-info[] optional	An array of hostnames which only have read privileges.
read-write		exports-hostname-info[] optional	An array of hostnames which have read and write privileges. Any hostname in read-only must not be in read-write also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'.
root		exports-hostname-info[] optional	Array of hostnames which have roots with 'read-write' or 'read-only' privileges.
sec-flavor		sec-flavor-info[] optional	List of possible security flavors this rule supports. Default security is "sys". Possible values are: • "none" • "sys" • "krb5" • "krb5i" • "krb5p"

Element definition: **exports-rule-info-2**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the exportfs command.

Name	Range	Type	Description
actual-pathname		string optional	In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string.
pathname		string	In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").
security-rules		security-rule-info[]	Access block information for lists of hosts.

Element definition: **hostaddr**

[top]

the individual client hosts. could be a hostname or an IP address.

[none]

Element definition: **nfs-info**

[top]

Information about NFS server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allow-idle-connection-timeout		boolean optional	Are Idle NFS Connections Supported Attributes: optional-for-create, modifiable
auth-sys-extended-groups		boolean optional	If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. Attributes: optional-for-create, modifiable
cached-cred-harvest-timeout	**[60000..604800000]**	integer optional	Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable

cached-cred-negative-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. Attributes: optional-for-create, modifiable
cached-cred-positive-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable
cached-transient-err-ttl	**[30000..300000]**	integer optional	Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. Attributes: optional-for-create, modifiable
chown-mode		nfschownmode optional	Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable Possible values: • "restricted" , • "unrestricted" , • "use_export_policy"
default-windows-group		string optional	The default windows group for CIFS access. Attributes: optional-for-create, modifiable
default-windows-user		string optional	The default windows user for CIFS access. Attributes: optional-for-create, modifiable
enable-ejukebox		boolean optional	If 'true', then the NFS server will send EJUKEBOX error on server delays. Attributes: optional-for-create, modifiable
extended-groups-limit	**[32..1024]**	integer optional	Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32. Attributes: optional-for-create, modifiable
file-session-io-grouping-count	**[1000..20000]**	integer optional	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. Attributes: optional-for-create, modifiable
file-session-io-grouping-duration	**[60..600]**	integer optional	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. Attributes: optional-for-create, modifiable

hadoop-allow-non-root-mount		boolean optional	Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. Attributes: optional-for-create, modifiable
idle-connection-timeout	**[120..86400]**	integer optional	Idle Connection Timeout Value (in seconds) Attributes: optional-for-create, modifiable
ignore-nt-acl-for-root		boolean optional	If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. Attributes: optional-for-create, modifiable
is-checksum-enabled-for-replay-cache		boolean optional	Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. Attributes: optional-for-create, modifiable
is-mount-rootonly-enabled		boolean optional	If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. Attributes: optional-for-create, modifiable
is-netgroup-dns-domain-search		boolean optional	If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfs-access-enabled		boolean optional	If 'true',then NFS server access is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfs-rootonly-enabled		boolean optional	If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv2-enabled		boolean optional	Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv3-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv3-connection-drop-enabled		boolean optional	If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv3-enabled		boolean optional	If 'true', then NFS version 3 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv3-fsid-change-enabled		boolean optional	If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-64bit-identifiers-		boolean	If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers.

enabled		optional	Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-fsid-change-enabled		boolean optional	If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-numeric-ids-enabled		boolean optional	If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-storepool-limit-enforce-enabled		boolean optional	(DEPRECATED)-If 'true', then NFS version 4 StorePool limit enforce feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-acl-enabled		boolean optional	If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-enabled		boolean optional	If 'true', then NFS version 4.0 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-migration-enabled		boolean optional	If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-read-delegation-enabled		boolean optional	If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-referrals-enabled		boolean optional	If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-req-open-confirm-enabled		boolean optional	If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-write-delegation-enabled		boolean optional	If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-acl-enabled		boolean optional	If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-acl-preserve-enabled		boolean optional	If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. Attributes: optional-for-create, modifiable
is-nfsv41-enabled		boolean optional	If 'true', then NFS version 4.1 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-		boolean	If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'.

migration-enabled		optional	Attributes: optional-for-create, modifiable
is-nfsv41-pnfs-enabled		boolean optional	If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv41-read-delegation-enabled		boolean optional	If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-referrals-enabled		boolean optional	If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-sequence-admin-revoked-enabled		boolean optional	If 'true', then NFS version 4.1 Sequence Admin Revoked support is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-state-protection-enabled		boolean optional	If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv41-trunking-enabled		boolean optional	If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-write-delegation-enabled		boolean optional	If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv42-seclabel-enabled		boolean optional	If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv42-sparsefile-ops-enabled		boolean optional	If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv42-xattrs-enabled		boolean optional	If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-qtree-export-enabled		boolean optional	If 'true', then the Vserver allows qtree exports (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable
is-qtree-qos-enabled		boolean optional	If 'true', then the Vserver allows qtree QoS (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable
is-rdma-enabled		boolean optional	If 'true', then enable NFS access over RDMA. Default value is 'true'. Attributes: optional-for-create, modifiable
			If 'restricted', then the Vserver restricts setting modebits and Acls for non-

is-restrict-chmod-acl		nfsrestrictchmodacl optional	susperuser. Default value is 'unrestricted'. Attributes: optional-for-create, modifiable Possible values: • "unrestricted" , • "restricted"
is-rquota-enabled		boolean optional	If 'true', then rquota is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-tcp-enabled		boolean optional	If 'true', then enable NFS access over TCP. Default value is 'true'. Attributes: optional-for-create, modifiable
is-udp-enabled		boolean optional	If 'true', then enable NFS access over UDP. Default value is 'true'. Attributes: optional-for-create, modifiable
is-v3-hide-snapshot		boolean optional	Hide .snapshot directory under NFSv3 mount point. Default value is disabled. Attributes: optional-for-create, modifiable
is-v3-ms-dos-client-enabled		boolean optional	If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. Attributes: optional-for-create, modifiable
is-validate-qtree-export-enabled		boolean optional	If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. Attributes: optional-for-create, modifiable
is-vstorage-enabled		boolean optional	If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. Attributes: optional-for-create, modifiable
map-unknown-uid-to-default-windows-user		boolean optional	Map Unknown UID to Default Windows User Attributes: optional-for-create, modifiable
mountd-port	**[0..2^32-1]**	integer optional	Port that NFS mount daemon is listening to. Default value is 635. Attributes: optional-for-create, modifiable
name-service-lookup-protocol		export-lookup-protos optional	Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Attributes: optional-for-create, modifiable Possible values: • "tcp" , • "udp"
netgroup-trust-any-ns-switch-no-match		boolean optional	If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. Attributes: optional-for-create, modifiable
nfsv4-acl-max-aces	**[192..1024]**	integer optional	Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. Attributes: optional-for-create,

			modifiable
nfsv4-grace-seconds	**[0..2^32-1]**	integer optional	NFSv4 Grace timeout value in seconds. Default value is 45 seconds. Attributes: optional-for-create, modifiable
nfsv4-id-domain		string optional	NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. Attributes: optional-for-create, modifiable
nfsv4-lease-seconds	**[0..2^32-1]**	integer optional	NFSv4 Lease timeout value in seconds. Default value is 30 seconds. Attributes: optional-for-create, modifiable
nfsv41-implementation-id-domain		string optional	NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. Attributes: optional-for-create, modifiable
nfsv41-implementation-id-name		string optional	NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. Attributes: optional-for-create, modifiable
nfsv41-implementation-id-time		date optional	NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. Attributes: optional-for-create, modifiable
nfsv4x-session-num-slots	**[1..2000]**	integer optional	Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. Attributes: optional-for-create, modifiable
nfsv4x-session-slot-reply-cache-size	**[512..4096]**	integer optional	Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. Attributes: optional-for-create, modifiable
nlm-port	**[0..2^32-1]**	integer optional	Port that network lock manager is listening to. Default value is 4045. Attributes: optional-for-create, modifiable
nsm-port	**[0..2^32-1]**	integer optional	Port that network status monitor is listening to. Default value is 4046. Attributes: optional-for-create, modifiable
ntacl-display-permissive-perms		boolean optional	This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. Attributes: optional-for-create, modifiable
ntfs-unix-security-ops		string optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable

permitted-enc-types		string[] optional	List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. Attributes: optional-for-create, modifiable
rpcsec-ctx-high	**[0..2^32-1]**	integer optional	High water mark for the RPCSEC_GSS Context Cache. Default value is 0. Attributes: optional-for-create, modifiable
rpcsec-ctx-idle	**[0..2^32-1]**	integer optional	Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. Attributes: optional-for-create, modifiable
rquotad-port	**[0..2^32-1]**	integer optional	Port that NFS quota daemon is listening to. Default value is 4049. Attributes: optional-for-create, modifiable
showmount		boolean optional	If 'true', then the Vserver allows showmount. Default value is 'enabled'. Attributes: optional-for-create, modifiable
showmount-rootonly		boolean optional	Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. Attributes: optional-for-create, modifiable
showmount-timestamp	**[0..2^31-1]**	integer optional	timestamp to indicate whether we want to update exports data file or not Attributes: non-creatable, non-modifiable
skip-root-owner-write-perm-check		boolean optional	If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'. Attributes: optional-for-create, modifiable
tcp-max-xfer-size	**[8192..1048576]**	integer optional	TCP Maximum Transfer Size (bytes). The default value is 65536 Attributes: optional-for-create, modifiable
udp-max-xfer-size	**[8192..57344]**	integer optional	UDP Maximum Transfer Size (bytes). The default value is 32768. Attributes: optional-for-create, modifiable
v3-search-unconverted-filename		boolean optional	Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. Attributes: optional-for-create, modifiable
v4-inherited-acl-preserve		boolean optional	Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **nfs-stats-info**

[top]

structure containing statistics for each NFS version

Name	Range	Type	Description
badcalls-total		integer	total bad NFS calls Range : [0..2^32-1].
calls-total		integer	total NFS calls Range : [0..2^64-1].
nfsv2-client-stats		nfsv2-client-stats-info	detailed statistics for NFSv2 operations
nfsv3-client-stats		nfsv3-client-stats-info	detailed statistics for NFSv3 operations
nfsv4-client-stats		nfsv4-client-stats-info	detailed statistics for NFSv4 operations

Element definition: **nfs-top-info**

[top]

Information about a single nfs top.

Name	Range	Type	Description
client-info		string	Client IP address
create-ops		integer	The number of nfs CREATE operations Range : [0..2^64-1].
getattr-ops		integer	The number of nfs GETATTR operations Range : [0..2^64-1].
lookup-ops		integer	The number of nfs LOOKUP operations Range : [0..2^64-1].
read-ops		integer	The number of nfs READ operations Range : [0..2^64-1].
readdir-ops		integer	The number of nfs READDIR and READIDRPLUS operations Range : [0..2^64-1].
readlink-ops		integer	The number of nfs READLINK operations Range : [0..2^64-1].
remove-ops		integer	The number of nfs REMOVE operations Range : [0..2^64-1].
total-ops		integer	The number of nfs operations Range : [0..2^64-1].
write-ops		integer	The number of nfs WRITE operations Range : [0..2^64-1].

Element definition: **nfschownmode**

[top]

restricted|unrestricted|use-export-policy Possible values:

- "restricted" ,
- "unrestricted" ,
- "use_export_policy"

[none]

Element definition: **nfsrestrictchmodacl**

[top]

unrestricted|restricted Possible values:

- "unrestricted" ,
- "restricted"

[none]

Element definition: **owner-info**

[top]

Information about the client host and the owner process on the client host whose locks have to be removed.

Name	Range	Type	Description
client-host		string	client host on which the locks have to be removed.
client-host-pid		string	process owner on the above client host whose locks have to be removed.

Element definition: **pathname-info**

[top]

Information about a pathname.

Name	Range	Type	Description
name		string	In Data ONTAP 7-Mode, it must be the name of the path, such as "/vol/vol0". In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").

Element definition: **rpc-stats-info**

[top]

structure containing statistics for RPC operations

Name	Range	Type	Description
tcp-info		rpc-data-info	detailed statistics for RPC over TCP operations
udp-info		rpc-data-info	detailed statistics for RPC over UDP operations

Element definition: **sec-flavor-info**

[top]

Sec flavor info

Name	Range	Type	Description
flavor		string optional	Security_Flavor Attributes: key, non-creatable, non-modifiable

Element definition: **tcp-flowcontrol-stats-info**

[top]

structure containing statistics for tcp flowcontrol

Name	Range	Type	Description
receive-out-total		integer	total number of times output was flow controlled on receive Range : [0..2^32-1].
receive-total		integer	total number of times input was flow controlled on receive Range : [0..2^32-1].
transmit-out-total		integer	total number of times output was flow controlled on transmit Range : [0..2^32-1].
transmit-total		integer	total number of times input was flow controlled on transmit Range : [0..2^32-1].

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

Name	Range	Type	Description
all-hosts		boolean optional	Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array.
name		string optional	A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the

			numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.'
negate		boolean optional	In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true.

Element definition: **nfsv2-client-stats-info**

[top]

structure containing statistics for NFSv2 operations

Name	Range	Type	Description
create-ops		integer	total 'create' NFSv2 operations Range : [0..2^64-1].
getattr-ops		integer	total 'getattr' NFSv2 operation Range : [0..2^64-1].
link-ops		integer	total 'link' NFSv2 operations Range : [0..2^64-1].
lookup-ops		integer	total 'lookup' NFSv2 operations Range : [0..2^64-1].
mkdir-ops		integer	total 'mkdir' NFSv2 operations Range : [0..2^64-1].
null-ops		integer	total 'null' NFSv2 operations Range : [0..2^64-1].
read-ops		integer	total 'read' NFSv2 operations Range : [0..2^64-1].
readdir-ops		integer	total 'readdir' NFSv2 operations Range : [0..2^64-1].
readlink-ops		integer	total 'readlink' NFSv2 operations Range : [0..2^64-1].
remove-ops		integer	total 'remove' NFSv2 operations Range : [0..2^64-1].
rename-ops		integer	total 'rename' NFSv2 operations Range : [0..2^64-1].
rmdir-ops		integer	total 'rmdir' NFSv2 operations Range : [0..2^64-1].
root-ops		integer	total 'root' NFSv2 operations Range : [0..2^64-1].
setattr-ops		integer	total 'setattr' NFSv2 operations Range : [0..2^64-1].
statfs-ops		integer	total 'statfs' NFSv2 operations Range : [0..2^64-1].
symlink-ops		integer	total 'symlink' NFSv2 operations Range : [0..2^64-1].
wrcache-ops		integer	total 'wrcache' NFSv2 operations Range : [0..2^64-1].
write-ops		integer	total 'write' NFSv2 operations Range : [0..2^64-1].

Element definition: **nfsv3-client-stats-info**

[top]

structure containing statistics for NFSv3 operations

Name	Range	Type	Description
access-ops		integer	total 'access' NFSv3 operations Range : [0..2^64-1].
commit-ops		integer	total 'commit' NFSv3 operations Range : [0..2^64-1].
create-ops		integer	total 'create' NFSv3 operations Range : [0..2^64-1].
fsinfo-ops		integer	total 'fsinfo' NFSv3 operations Range : [0..2^64-1].
fsstat-ops		integer	total 'fsstat' NFSv3 operations Range : [0..2^64-1].
getattr-ops		integer	total 'getattr' NFSv3 operations Range : [0..2^64-1].
link-ops		integer	total 'link' NFSv3 operations Range : [0..2^64-1].
lookup-ops		integer	total 'lookup' NFSv3 operations Range : [0..2^64-1].
mkdir-ops		integer	total 'mkdir' NFSv3 operations Range : [0..2^64-1].

mknod-ops		integer	total 'mknod' NFSv3 operations Range : [0..2^64-1].
null-ops		integer	total 'null' NFSv3 operations Range : [0..2^64-1].
pathconf-ops		integer	total 'pathconf' NFSv3 operations Range : [0..2^64-1].
read-ops		integer	total 'read' NFSv3 operations Range : [0..2^64-1].
readdir-ops		integer	total 'readdir' NFSv3 operations Range : [0..2^64-1].
readdirplus-ops		integer	total 'readdirplus' NFSv3 operations Range : [0..2^64-1].
readlink-ops		integer	total 'readlink' NFSv3 operations Range : [0..2^64-1].
remove-ops		integer	total 'remove' NFSv3 operations Range : [0..2^64-1].
rename-ops		integer	total 'rename' NFSv3 operations Range : [0..2^64-1].
rmdir-ops		integer	total 'rmdir' NFSv3 operations Range : [0..2^64-1].
setattr-ops		integer	total 'setattr' NFSv3 operations Range : [0..2^64-1].
symlink-ops		integer	total 'symlink' NFSv3 operations Range : [0..2^64-1].
write-ops		integer	total 'write' NFSv3 operations Range : [0..2^64-1].

Element definition: **nfsv4-client-stats-info**

[top]

structure containing statistics for NFSv4 operations

Name	Range	Type	Description
access-ops		integer optional	total 'access' NFSv4 operations Range : [0..2^64-1].
acls-set-total		integer optional	number of ACLs set on files Range : [0..2^32-1].
badproc2-ops		integer optional	total 'badproc2' NFSv4 operations Range : [0..2^64-1].
close-ops		integer optional	total 'close' NFSv4 operations Range : [0..2^64-1].
commit-ops		integer optional	total 'commit' NFSv4 operations Range : [0..2^64-1].
compound-ops		integer optional	total 'compound' NFSv4 operations Range : [0..2^64-1].
create-ops		integer optional	total 'create' NFSv4 operations Range : [0..2^64-1].
delegpurge		integer optional	total 'delegpurge' NFSv4 operations Range : [0..2^64-1].
delegret-ops		integer optional	total 'delegret' NFSv4 operations Range : [0..2^64-1].
getattr-ops		integer optional	total 'getattr' NFSv4 operations Range : [0..2^64-1].
getfh-ops		integer optional	total 'getfh' NFSv4 operations Range : [0..2^64-1].
link-ops		integer optional	total 'link' NFSv4 operations Range : [0..2^64-1].
lock-ops		integer optional	total 'lock' NFSv4 operations Range : [0..2^64-1].
lockt-ops		integer optional	total 'lockt' NFSv4 operations Range : [0..2^64-1].
locku-ops		integer optional	total 'locku' NFSv4 operations Range : [0..2^64-1].

lookup-ops		integer optional	total 'lookup' NFSv4 operations Range : [0..2^64-1].
lookupp-ops		integer optional	total 'lookupp' NFSv4 operations Range : [0..2^64-1].
no-delegation-total		integer optional	total calls where a delegation could not be granted Range : [0..2^32-1].
null-ops		integer optional	total 'null' NFSv4 operations Range : [0..2^64-1].
nverify-ops		integer optional	total 'nverify' NFSv4 operations Range : [0..2^64-1].
open-confirm-ops		integer optional	total 'open_confirm' NFSv4 operations Range : [0..2^64-1].
open-downgrade-ops		integer optional	total 'open_downgrade' NFSv4 operations Range : [0..2^64-1].
open-ops		integer optional	total 'open' NFSv4 operations Range : [0..2^64-1].
openattr-ops		integer optional	total 'openattr' NFSv4 operations Range : [0..2^64-1].
putfh-ops		integer optional	total 'putfh' NFSv4 operations Range : [0..2^64-1].
putpubfh-ops		integer optional	total 'putpubfh' NFSv4 operations Range : [0..2^64-1].
putrootfh-ops		integer optional	total 'putrootfh' NFSv4 operations Range : [0..2^64-1].
read-delegation-total		integer optional	total calls where a read delegation was granted Range : [0..2^32-1].
read-ops		integer optional	total 'read' NFSv4 operations Range : [0..2^64-1].
readdir-ops		integer optional	total 'readdir' NFSv4 operations Range : [0..2^64-1].
readlink-ops		integer optional	total 'readlink' NFSv4 operations Range : [0..2^64-1].
remove-ops		integer optional	total 'remove' NFSv4 operations Range : [0..2^64-1].
rename-ops		integer optional	total 'rename' NFSv4 operations Range : [0..2^64-1].
renew-ops		integer optional	total 'renew' NFSv4 operations Range : [0..2^64-1].
restorefh-ops		integer optional	total 'restorefh' NFSv4 operations Range : [0..2^64-1].
rlsowner-ops		integer optional	total 'rlsowner' NFSv4 operations Range : [0..2^64-1].
savefh-ops		integer optional	total 'savefh' NFSv4 operations Range : [0..2^64-1].
secinfo-ops		integer optional	total 'secinfo' NFSv4 operations Range : [0..2^64-1].
setattr-ops		integer optional	total 'setattr' NFSv4 operations Range : [0..2^64-1].
setclntid-cfm-ops		integer optional	total 'setclntid_cfm' NFSv4 operations Range : [0..2^64-1].
setclntid-ops		integer optional	total 'setclntid' NFSv4 operations Range : [0..2^64-1].
verify-ops		integer optional	total 'verify' NFSv4 operations Range : [0..2^64-1].

write-delegation-total		integer optional	total calls where a write delegation was granted Range : [0..2^32-1].
write-ops		integer optional	total 'write' NFSv4 operations Range : [0..2^64-1].

Element definition: **rpc-data-info**

[top]

structure containing statisticcs for RPC operations

Name	Range	Type	Description
badcalls-total		integer	total bad RPC calls Range : [0..2^32-1].
badlen-total		integer	total badlen RPC calls Range : [0..2^32-1].
calls-total		integer	total RPC calls Range : [0..2^64-1].
nullrecv-total		integer	total nullrecv RPC calls Range : [0..2^32-1].
xdrcall-total		integer	total badhdr RPC calls Range : [0..2^32-1].

Element definition: **security-rule-info**

[top]

Information on hostnames and security availability for the hosts. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

Name	Range	Type	Description
anon		string optional	All hosts with this user-id or username have root access to this directory.
nosuid		boolean optional	If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false.
read-only		exports-hostname-info[] optional	An array of hostnames which only have read privileges for all the security flavors found in the sec-flavor list.
read-write		exports-hostname-info[] optional	An array of hostnames which have read and write privileges for all the security flavors found in the 'sec-flavor list'. Any hostname in 'read-only' must not be in 'read-write' also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'.
root		exports-hostname-info[] optional	Array of hostnames which have roots with 'read-write' or 'read-only' privileges.
sec-flavor		sec-flavor-info[] optional	List of possible security flavors this rule supports. Default security is "sys". Possible values are: • "none" • "sys" • "krb5" • "krb5i" • "krb5p"

Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

Name	Range	Type	Description
all-hosts		boolean optional	Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array.
name		string optional	A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.'
negate		boolean optional	In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true.

Element definition: **sec-flavor-info**

[top]

Sec flavor info

Name	Range	Type	Description
flavor		string optional	Security_Flavor Attributes: key, non-creatable, non-modifiable

APIs in Category: **nis**

nis-create
nis-destroy
nis-get
nis-get-iter
nis-modify

nis-create

[top]

Create an NIS domain configuration. Multiple NIS domains can be configured on a single Vserver, but only one NIS domain can be active at any given time.

Input Name	Range	Type	Description
is-active		boolean optional	(DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'
nis-fqdn		string[] optional	Specifies the hostname/IP address of one or more NIS servers in the domain.
nis-servers		ip-address[] optional	(DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain.
return-record		boolean optional	If set to true, returns the NIS domain configuration on successful creation. Default: false
skip-config-validation		boolean optional	If true, validation of the the corresponding NIS configuration will be skipped.

Output Name	Range	Type	Description
result		nis-domain-config-info optional	The NIS domain configuration created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NIS_CONFIGURATION_EXISTS	
E_NIS_ACTIVE_FALSE_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nis-destroy

[top]

Destroy an existing NIS configuration.

Input Name	Range	Type	Description
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nis-get

[top]

Get NIS domain configuration.

Input Name	Range	Type	Description
desired-attributes		nis-domain-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Output Name	Range	Type	Description
attributes		nis-domain-config-info	The attributes of the NIS domain configuration.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

nis-get-iter

[top]

Iterate over a list of NIS configurations.

Input Name	Range	Type	Description
desired-attributes		nis-domain-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		nis-domain-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NIS domain configuration object. All NIS domain configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nis-domain-config-info[] optional	The list of attributes of NIS domain configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NIS domain configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

nis-modify

[top]

Modify the attributes of NIS configuration.

Input Name	Range	Type	Description
is-active		boolean optional	(DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'
nis-fqdn		string[] optional	Specifies the hostname/IP address of one or more NIS servers in the domain.
nis-servers		ip-address[] optional	(DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain.
skip-config-validation		boolean optional	If true, validation of the the corresponding NIS configuration will be skipped.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NIS_ACTIVE_FALSE_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **nis-domain-config-info**

[top]

NIS domain configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-active		boolean optional	(DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. Attributes: optional-for-create, modifiable
nis-domain		string optional	Specifies the NIS domain. For example: 'example.com' Attributes: key, required-for-create, non-modifiable
nis-fqdn		string[] optional	Specifies the hostname/IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable
nis-servers		ip-address[] optional	(DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable
skip-config-validation		boolean optional	If true, validation of the the corresponding NIS configuration will be skipped. Attributes: optional-for-create, modifiable
vserver		string optional	Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

APIs in Category: **ntp-server**

ntp-server-create
ntp-server-delete
ntp-server-get
ntp-server-get-iter
ntp-server-key-create
ntp-server-key-delete
ntp-server-key-get-iter
ntp-server-key-modify
ntp-server-modify
ntp-server-reset
ntp-server-security-get
ntp-server-security-set
ntp-server-status-get
ntp-server-status-get-iter
ntp-server-validate

This is an auto generated category.

ntp-server-create

[top]

Creates a configuration for an external time server to be used by NTP.

Input Name	Range	Type	Description
is-preferred		boolean optional	Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set.
key-id	**[1..65535]**	integer optional	Specifies the symmetric authentication key ID being used for this time server.
return-record		boolean optional	If set to true, returns the ntp server configuration on successful creation. Default: false
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server
version		string optional	NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value.

Output Name	Range	Type	Description
result		ntp-server-info optional	The ntp server configuration created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
EDUPLICATEENTRY	

ENTP_USE_NODE_SCOPE	
ENTP_INVALID_SERVER_NAME	
ENTP_INVALID_IPV4_ADDR	
ENTP_INVALID_IPV6_ADDR	
ENTP_SERVER_NAME_NOTFOUND	
ENTP_SERVER_NAME_ADDRS	
ENTP_NO_CONNECT	
ENTP_NO_QUICKREPLY	
ENTP_REPLY_NO_SYNC	
ENTP_REPLY_NO_ACCES	
ENTP_REPLY_NO_CRYPTO	
ENTP_REPLY_PROTOCOL	
ENTP_REPLY_ROOT_DIST	
ENTP_REPLY_ROOT_DISP	
ENTP_REPLY_PEER_DIST	
ENTP_REPLY_PEER_DISP	
ENTP_REPLY_PEER_STRATUM	
ENTP_NEEDS_9_5_0	
ENTP_INVALID_FIELD_AUTH_ENABLED	
ENTP_AUTH_NOT_IN_CLUSTER	
ENTP_AUTH_UNKNOWN_KEY	
ENTP_AUTH_FAILED	

ntp-server-delete

[top]

Remove a configuration for an external time server used by NTP.

Input Name	Range	Type	Description
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
ENTP_USE_NODE_SCOPE	

ntp-server-get

[top]

Get the configuration of an external time server used by NTP.

Input Name	Range	Type	Description
desired-attributes		ntp-server-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be

		optional	returned.
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server

Output Name	Range	Type	Description
attributes		ntp-server-info	The attributes of the ntp server configuration.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
ENTP_USE_NODE_SCOPE	

ntp-server-get-iter

[top]

Get the configuration of all the external time servers used by NTP.

Input Name	Range	Type	Description
desired-attributes		ntp-server-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ntp-server-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp server configuration object. All ntp server configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ntp-server-info[] optional	The list of attributes of ntp server configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ntp server configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	

Errno	Description
ENTP_USE_NODE_SCOPE	

ntp-server-key-create

[top]

Create an NTP symmetric authentication key.

Input Name	Range	Type	Description
id	**[1..65535]**	integer	NTP symmetric authentication key ID. The ID must be in the range 1-65535.
return-record		boolean optional	If set to true, returns the ntp authentication key on successful creation. Default: false
type		ntp-key-type	NTP symmetric authentication key type. Only SHA1 currently supported. Possible values: • "sha1"
value		string	NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys.

Output Name	Range	Type	Description
result		ntp-key-info optional	The ntp authentication key created (keys or the entire object if requested)

Errno	Description
ENTP_INVALID_SHA1_KEY	
ENTP_TOO_MANY_KEYS	

ntp-server-key-delete

[top]

Remove an NTP symmetric authentication key.

Input Name	Range	Type	Description
id	**[1..65535]**	integer	NTP symmetric authentication key ID. The ID must be in the range 1-65535.

Errno	Description
ENTP_KEY_IN_USE	

ntp-server-key-get-iter

[top]

Get the configuration of all NTP symmetric authentication keys.

Input Name	Range	Type	Description

desired-attributes		ntp-key-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ntp-key-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp authentication key object. All ntp authentication key objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ntp-key-info[] optional	The list of attributes of ntp authentication key objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ntp authentication key objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ntp-server-key-modify

[top]

Modify an NTP symmetric authentication key.

Input Name	Range	Type	Description
id	**[1..65535]**	integer	NTP symmetric authentication key ID. The ID must be in the range 1-65535.
type		ntp-key-type optional	NTP symmetric authentication key type. Only SHA1 currently supported. Possible values: • "sha1"
value		string optional	NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys.

Errno	Description
ENTP_INVALID_SHA1_KEY	

ntp-server-modify

[top]

Modify a configuration for an external time server used by NTP.

Input Name	Range	Type	Description
is-authentication-enabled		boolean optional	Specifies if symmetric key authentication is in use for this time server.
is-preferred		boolean optional	Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set.
key-id	**[1..65535]**	integer optional	Specifies the symmetric authentication key ID being used for this time server.
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server
version		string optional	NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
ENTP_USE_NODE_SCOPE	
ENTP_NEEDS_9_5_0	
ENTP_INVALID_FIELD_AUTH_ENABLED	
ENTP_AUTH_NOT_IN_CLUSTER	
ENTP_AUTH_UNKNOWN_KEY	
ENTP_AUTH_FAILED	

ntp-server-reset

[top]

Reset the external NTP server list to the desired default values. The table is emptied and then populated to the desired default values.

Input Name	Range	Type	Description
use-public		boolean optional	Reset server list to public identified defaults

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
ENTP_USE_NODE_SCOPE	
ENTP_NO_RESET_SELECTED	

ntp-server-security-get

[top]

Get the NTP security settings.

Input Name	Range	Type	Description
desired-attributes		ntp-server-security-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		ntp-server-security-info	The attributes of the ntp-server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ntp-server-security-set

[top]

Set the NTP security settings.

Input Name	Range	Type	Description
is-query-enabled		boolean optional	Is Querying of NTP Server Enabled?

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ntp-server-status-get

[top]

Get the status of the selection of an external time server.

Input Name	Range	Type	Description
desired-attributes		ntp-server-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
server		string	Host name, IPv4 address or IPv6 address for the external NTP time server

Output Name	Range	Type	Description
		ntp-server-	

attributes		status-info	The attributes of the ntp-server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ntp-server-status-get-iter

[top]

Get the status of the selection of all configured external time servers.

Input Name	Range	Type	Description
desired-attributes		ntp-server-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ntp-server-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp-server object. All ntp-server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ntp-server-status-info[] optional	The list of attributes of ntp-server objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ntp-server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ntp-server-validate

[top]

Validate an existing NTP external time server and report any validation problems

Input Name	Range	Type	Description

server-name		string	Host name, IPv4 address or IPv6 address for the NTP external time server

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
EDUPLICATEENTRY	
ENTP_USE_NODE_SCOPE	
ENTP_INVALID_SERVER_NAME	
ENTP_INVALID_IPV4_ADDR	
ENTP_INVALID_IPV6_ADDR	
ENTP_SERVER_NAME_NOTFOUND	
ENTP_SERVER_NAME_ADDRS	
ENTP_NO_CONNECT	
ENTP_NO_QUICKREPLY	
ENTP_REPLY_NO_SYNC	
ENTP_REPLY_NO_ACCES	
ENTP_REPLY_NO_CRYPTO	
ENTP_REPLY_PROTOCOL	
ENTP_REPLY_ROOT_DIST	
ENTP_REPLY_ROOT_DISP	
ENTP_REPLY_PEER_DIST	
ENTP_REPLY_PEER_DISP	
ENTP_REPLY_PEER_STRATUM	
ENTP_AUTH_FAILED	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **ntp-key-info**

[top]

Network Time Protocol (NTP) Key When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
id	**[1..65535]**	integer optional	NTP symmetric authentication key ID. The ID must be in the range 1-65535. Attributes: key, required-for-create, non-modifiable
type		ntp-key-type optional	NTP symmetric authentication key type. Only SHA1 currently supported. Attributes: required-for-create, modifiable Possible values: • "sha1"
value		string optional	NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. Attributes: required-for-create, modifiable

Element definition: **ntp-key-type**

[top]

sha1 Possible values:

- "sha1"

[none]

Element definition: **ntp-server-info**

[top]

Network Time Protocol (NTP) Server Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-authentication-enabled		boolean optional	Specifies if symmetric key authentication is in use for this time server. Attributes: non-creatable, modifiable
is-preferred		boolean optional	Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. Attributes: optional-for-create, modifiable
is-public-default		boolean optional	Specifies if the time server was provided as a default public NTP server by Data ONTAP. Attributes: non-creatable, non-modifiable
key-id	**[1..65535]**	integer optional	Specifies the symmetric authentication key ID being used for this time server. Attributes: optional-for-create, modifiable
server-name		string optional	Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, required-for-create, non-modifiable
version		string optional	NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. Attributes: optional-for-create, modifiable

Element definition: **ntp-server-security-info**

[top]

NTP Server Security Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-query-enabled		boolean optional	Is Querying of NTP Server Enabled? Attributes: non-creatable, modifiable

Element definition: **ntp-server-status-info**

[top]

NTP Server Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-peer-reachable		boolean optional	Is Peer Reachable and Responding to Polls? Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
offset		double-hundredths optional	Offset from Server Time (ms) Attributes: non-creatable, non-modifiable
selection-state		string optional	Description of Server Selection State Attributes: non-creatable, non-modifiable
server		string optional	Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, non-creatable, non-modifiable

Element definition: **double-hundredths**

[top]

Floating point number rounded to two decimals

[none]

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **nvme**

nvme-create
nvme-delete
nvme-feature-get
nvme-get-iter
nvme-interface-get-iter
nvme-modify
nvme-namespace-create
nvme-namespace-delete
nvme-namespace-get-iter
nvme-namespace-modify
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nvme-subsystem-controller-get-iter
nvme-subsystem-create
nvme-subsystem-delete
nvme-subsystem-get-iter
nvme-subsystem-host-add
nvme-subsystem-host-get-iter
nvme-subsystem-host-remove
nvme-subsystem-map-add
nvme-subsystem-map-get-iter
nvme-subsystem-map-remove
nvme-subsystem-modify
nvme-subsystem-os-type-list

Provides mechanisms to manage access to NVMe targets within Data ONTAP.

nvme-create

[top]

Create a new NVMe target service.

Input Name	Range	Type	Description
is-available		boolean optional	Is Available
return-record		boolean optional	If set to true, returns the NVMe target service on successful creation. Default: false

Output Name	Range	Type	Description
result		nvme-target-service-info	The NVMe target service created (keys or the entire object if requested)

		optional	

Errno	Description
EAPIUNSUPPORTEDVERSION	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
EVSERVERNOTRUNNING	
E_NVMF_EXCLUSIVE_VSERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-delete

[top]

Delete an existing NVMe target service object.

Errno	Description
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
E_NVMF_EXCLUSIVE_VSERVER	
E_NVMF_SERVICE_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-feature-get

[top]

Get the enabled NVMe over Fabrics features

Output Name	Range	Type	Description
features		nvme-feature[] optional	Enabled NVMe over Fabrics features
max-anagrpid		integer optional	Maximum supported ANAGRPID
max-namespace-size		size optional	Maximum supported namespace size
max-nsid		integer optional	Maximum supported NSID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

nvme-get-iter

[top]

Iterate over a list of NVMe target service objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-service-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target service object. All NVMe target service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-service-info[] optional	The list of attributes of NVMe target service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe target service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-interface-get-iter

[top]

Iterate over a list of NVMe Interface objects.

Input Name	Range	Type	Description
desired-attributes		nvme-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe Interface object. All NVMe Interface objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for the

tag		string optional	first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-interface-info[] optional	The list of attributes of NVMe Interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe Interface objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-modify

[top]

Modify the attributes of NVMe target service object.

Input Name	Range	Type	Description
is-available		boolean optional	Is Available

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-namespace-create

[top]

Create a new NVMe target namespace.

Input Name	Range	Type	Description
application		string optional	Application
block-size		vdisk-block-size optional	Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096.
comment		string optional	Comment
		nvme-	OS Type Possible values: • "vmware" - The namespace contains VMware file system data, • "hyper_v" - The namespace contains Windows Hyper-V file

ostype		namespace-os	system data, • "windows" - The namespace contains Windows file system data, • "linux" - The namespace contains Linux file system data, • "xen" - The namespace contains Xen file system data, • "aix" - The namespace contains AIX file system data
path		lun-path	Namespace Path
return-record		boolean optional	If set to true, returns the NVMe target namespace on successful creation. Default: false
size		size	Size
uuid		uuid optional	Namespace UUID

Output Name	Range	Type	Description
result		nvme-namespace-info optional	The NVMe target namespace created (keys or the entire object if requested)

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EOP_DISALLOWED_VSERVER_ROOT	
EVDISK_ERROR_FLEXGROUP	
EVDISK_ERROR_LUN_TOO_LARGE	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_SIZE_TOO_SMALL	
EVDISK_ERROR_VDISK_EXISTS	
EVDISK_SNAPSHOT_PATH_DISALLOWED	
EVDISK_VOLUME_UNSUPPORTED	
EVOLUMEDOESNOTEXIST	
E_NVMF_NS_TOO_LARGE	
E_NVMF_NS_TOO_SMALL	

nvme-namespace-delete

[top]

Delete the namespace

Input Name	Range	Type	Description
destroy-application-namespace		boolean optional	Delete a Namespace Belonging to an Application
path		lun-path	Namespace Path
skip-mapped-check		boolean optional	Skip Mapped Check

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	

E_NVMF_NS_IN_USE	
EVDISK_SNAPSHOT_PATH_DISALLOWED	

nvme-namespace-get-iter

[top]

Iterate over a list of NVMe target namespace objects.

Input Name	Range	Type	Description
desired-attributes		nvme-namespace-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-namespace-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target namespace object. All NVMe target namespace objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-namespace-info[] optional	The list of attributes of NVMe target namespace objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe target namespace objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
volume-errors		volume-error[] optional	List of errors encountered while retrieving namespace inventory

Errno	Description
EINTERNALERROR	

nvme-namespace-modify

[top]

Modify the attributes of NVMe target namespace object.

Input Name	Range	Type	Description
comment		string	Comment
path		lun-path	Namespace Path

Errno	Description

EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EVDISK_SNAPSHOT_PATH_DISALLOWED	
E_NVMF_NS_TOO_LARGE	
E_NVMF_NS_TOO_SMALL	

nvme-namespace-os-type-list

[top]

Displays the supported values and descriptions for nvme-namespace-os.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[] optional	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

nvme-subsystem-controller-get-iter

[top]

Iterate over a list of NVMe subsystem controllers objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-subsystem-controller-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-subsystem-controller-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem controllers object. All NVMe subsystem controllers objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-subsystem-controller-info[] optional	The list of attributes of NVMe subsystem controllers objects.
next-tag		string	Tag for the next call. Not present when there are no more NVMe

		optional	subsystem controllers objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-create

[top]

Create a new NVMe target subsystem.

Input Name	Range	Type	Description
comment		string optional	Comment
delete-on-unmap		boolean optional	Delete on Unmap
ostype		nvme-subsystem-os	OS Type Possible values: • "windows" - The initiators belong to a Windows host, • "aix" - The initiators belong to an AIX host, • "linux" - The initiators belong to a Linux host, • "vmware" - The initiators belong to a VMware ESX host, • "xen" - The initiators belong to a Xen hypervisor host, • "hyper_v" - The initiators belong to a Hyper-V parent host
return-record		boolean optional	If set to true, returns the NVMe target subsystem on successful creation. Default: false
subsystem		string	Subsystem

Output Name	Range	Type	Description
result		nvme-subsystem-info optional	The NVMe target subsystem created (keys or the entire object if requested)

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
E_NVMF_EXCLUSIVE_VSERVER	
E_NVMF_SERVICE_REQUIRED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-delete

[top]

Delete the subsystem

Input Name	Range	Type	Description
skip-host-check		boolean optional	Skip Host Check
skip-mapped-check		boolean optional	Skip Mapped Namespace Check
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
E_NVMF_SUBSYSTEM_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-get-iter

[top]

Iterate over a list of NVMe target subsystem objects.

Input Name	Range	Type	Description
desired-attributes		nvme-subsystem-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-subsystem-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target subsystem object. All NVMe target subsystem objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-subsystem-info[] optional	The list of attributes of NVMe target subsystem objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe target subsystem objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-host-add

[top]

Add a host to the subsystem

Input Name	Range	Type	Description
host-nqn		string	Host NQN
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-host-get-iter

[top]

Iterate over a list of NVMe subsystem hosts objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-subsystem-host-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-subsystem-host-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem hosts object. All NVMe subsystem hosts objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-subsystem-host-info[] optional	The list of attributes of NVMe subsystem hosts objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe subsystem hosts objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-host-remove

[top]

Remove a host from the subsystem

Input Name	Range	Type	Description
host-nqn		string	Host NQN
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	

nvme-subsystem-map-add

[top]

Add a namespace map

Input Name	Range	Type	Description
path		lun-path	Namespace Path
subsystem		string	Subsystem

Output Name	Range	Type	Description
namespace-uuid		uuid	Namespace UUID
nsid	**[0..2^32-1]**	integer	NSID

Errno	Description
EVDISK_SNAPSHOT_PATH_DISALLOWED	
E_NVMF_NS_IN_USE	
E_NVMF_LIF_REQUIRED	
E_NVMF_SUBSYSTEM_MAP_LIMIT	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-map-get-iter

[top]

Iterate over a list of NVMe attached namespace objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-subsystem-map-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-subsystem-map-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe attached namespace object. All NVMe attached namespace objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-subsystem-map-info[] optional	The list of attributes of NVMe attached namespace objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe attached namespace objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-map-remove

[top]

Remove a namespace map

Input Name	Range	Type	Description
path		lun-path	Namespace Path
subsystem		string	Subsystem

Errno	Description
EVDISK_SNAPSHOT_PATH_DISALLOWED	
E_NVMF_NS_NOT_MAPPED	

nvme-subsystem-modify

[top]

Modify the attributes of NVMe target subsystem object.

Input Name	Range	Type	Description

comment		string optional	Comment
delete-on-unmap		boolean optional	Delete on Unmap
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-os-type-list

[top]

Displays the supported values and descriptions for nvme-subsystem-os.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[] optional	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

Element definition: **lun-path**

[top]

LUN Path

[none]

Element definition: **nvme-feature**

[top]

nvmf|fc-nvme|multi-path|multi-node|multi-protocol|volume-move|block-size-512|nvme-roce|nvme-tcp|subsystem-vendor-uuids|namespace-resize|namespace-transition|mcc-fc-nvme|inband-authentication|nodes-per-vserver-12|tp-8009 Possible values:

- "nvmf" - NVMe over Fabrics Base Feature,
- "fc_nvme" - NVMe/FC Transport,
- "multi_path" - Multi-Path,
- "multi_node" - Multi-Node,
- "multi_protocol" - Multi-Protocol Vserver,
- "no_node_lif_limit" - Allow More Than 2 LIFs per Node,
- "volume_move" - Volume Move of Mapped Namespaces,
- "block_size_512" - 512-byte Block Size Namespaces,

"large_namespace" - Large Namespaces,
- "nvme_roce" - NVMe/RoCE Transport,
- "nvme_tcp" - NVMe/TCP Transport,
- "subsystem_vendor_uuids" - Vendor-Specific UUIDs in Subsystems,
- "aix" - AIX host support,
- "namespace_resize" - Namespace resize support,
- "lun_to_namespace_transition" - Transition from LUN to Namespace support,
- "nsid_1024" - Support 1024 Namespaces per Subsystem,
- "unique_discovery_nqn" - Unique Discovery Subsystem NQN,
- "mcc_fc_nvme" - FC NVMe on MCC,
- "inband_authentication" - In-band Authentication,
- "nodes_per_vserver_12" - Allow 12 Nodes with LIFs in a Vserver,
- "tp_8009" - TP-8009 Support

[none]

Element definition: **nvme-interface-info**

[top]

NVMe target interface configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	Comment Attributes: non-creatable, non-modifiable
fc-wwnn		string optional	FC WWNN Attributes: non-creatable, non-modifiable
fc-wwpn		string optional	FC WWPN Attributes: non-creatable, non-modifiable
home-node		filer-id optional	Home Node Attributes: non-creatable, non-modifiable
home-port		lif-bindable optional	Home Port Attributes: non-creatable, non-modifiable
lif		lif-name optional	Logical Interface Attributes: key, non-creatable, non-modifiable
lif-uuid		uuid optional	LIF UUID Attributes: non-creatable, non-modifiable
physical-protocol		nvme-physical-protocol optional	Physical Protocol Attributes: non-creatable, non-modifiable Possible values: • "fibre_channel" , • "ethernet"
status-admin		vif-status optional	Status Admin Attributes: non-creatable, non-modifiable Possible values: • "up" ,

			• "down"
transport-address		string optional	Transport Address Attributes: non-creatable, non-modifiable
transport-protocols		nvme-transport[] optional	Transport Protocol Attributes: non-creatable, non-modifiable Possible values: • "fc_nvme" - NVMe/FC, • "nvme_roce" - NVMe/RoCE, • "nvme_tcp" - NVMe/TCP
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-namespace-info**

[top]

NVMe target namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
anagrpid	**[0..2^32-1]**	integer optional	ANA Group ID Attributes: non-creatable, non-modifiable
application		string optional	Application Attributes: optional-for-create, non-modifiable
application-uuid		uuid optional	Application UUID Attributes: non-creatable, non-modifiable
block-size		vdisk-block-size optional	Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096. Attributes: optional-for-create, non-modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
creation-timestamp		datetime optional	Creation Time Attributes: non-creatable, non-modifiable
is-read-only		boolean optional	Is Read Only Attributes: non-creatable, non-modifiable
node		filer-id optional	Node Hosting the Namespace Attributes: non-creatable, non-modifiable
nsid	**[0..2^32-1]**	integer optional	Namespace ID Attributes: non-creatable, non-modifiable
			OS Type Attributes: required-for-create, non-modifiable Possible values: • "vmware" - The namespace contains VMware file system data,

ostype		nvme-namespace-os optional	• "hyper_v" - The namespace contains Windows Hyper-V file system data, • "windows" - The namespace contains Windows file system data, • "linux" - The namespace contains Linux file system data, • "xen" - The namespace contains Xen file system data, • "aix" - The namespace contains AIX file system data
path		lun-path optional	Namespace Path Attributes: key, required-for-create, non-modifiable
qtree		qtree-name optional	Qtree Name Attributes: non-creatable, non-modifiable
restore-inaccessible		boolean optional	Restore Inaccessible Attributes: non-creatable, non-modifiable
size		size optional	Size Attributes: required-for-create, modifiable
size-used		size optional	Size Used Attributes: non-creatable, non-modifiable
state		nvme-namespace-state optional	State Attributes: non-creatable, modifiable Possible values: • "online" - Namespace is administratively online, • "offline" - Namespace is adminitratively offline or the reason is unknown, • "nvfail" - Namespace was automatically taken offline due to NVRAM failure, • "space_error" - Namespace was automatically taken offline due to insufficient space
subsystem		string optional	Mapped Subsystem Attributes: non-creatable, non-modifiable
uuid		uuid optional	Namespace UUID Attributes: optional-for-create, non-modifiable
volume		volume-name optional	Volume Name Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-namespace-os**

[top]

aix|linux|vmware|windows Possible values:

- "vmware" - The namespace contains VMware file system data,
- "hyper_v" - The namespace contains Windows Hyper-V file system data,
- "windows" - The namespace contains Windows file system data,
- "linux" - The namespace contains Linux file system data,
- "xen" - The namespace contains Xen file system data,
- "aix" - The namespace contains AIX file system data

[none]

Element definition: **nvme-subsystem-info**

[top]

NVMe target subsystem configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	Comment Attributes: optional-for-create, modifiable
default-io-queue-count	**[1..15]**	integer optional	Default Number of Host I/O Queue Pairs Attributes: optional-for-create, modifiable
default-io-queue-depth	**[16..128]**	integer optional	Default Host I/O Queue Depth Attributes: optional-for-create, modifiable
delete-on-unmap		boolean optional	Delete on Unmap Attributes: optional-for-create, modifiable
ostype		nvme-subsystem-os optional	OS Type Attributes: required-for-create, non-modifiable Possible values: • "windows" - The initiators belong to a Windows host, • "aix" - The initiators belong to an AIX host, • "linux" - The initiators belong to a Linux host, • "vmware" - The initiators belong to a VMware ESX host, • "xen" - The initiators belong to a Xen hypervisor host, • "hyper_v" - The initiators belong to a Hyper-V parent host
serial-number		string optional	Serial Number Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, required-for-create, non-modifiable
target-nqn		string optional	Target NQN Attributes: non-creatable, non-modifiable
uuid		uuid optional	UUID Attributes: optional-for-create, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-subsystem-os**

[top]

aix|linux|vmware|windows Possible values:

- "windows" - The initiators belong to a Windows host,
- "aix" - The initiators belong to an AIX host,
- "linux" - The initiators belong to a Linux host,
- "vmware" - The initiators belong to a VMware ESX host,
- "xen" - The initiators belong to a Xen hypervisor host,
- "hyper_v" - The initiators belong to a Hyper-V parent host

[none]

Element definition: **nvme-target-service-info**

[top]

NVMe target service configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-available		boolean optional	Is Available Attributes: optional-for-create, modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-target-subsystem-controller-info**

[top]

NVMe subsystem controller When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-queue-depth	**[0..2^32-1]**	integer optional	Admin Queue Depth Attributes: non-creatable, non-modifiable
controller-id	**[0..2^16-1]**	integer optional	Controller ID Attributes: key, non-creatable, non-modifiable

data-digest-enabled		boolean optional	Data Digest Enabled Attributes: non-creatable, non-modifiable
header-digest-enabled		boolean optional	Header Digest Enabled Attributes: non-creatable, non-modifiable
host-nqn		string optional	Host NQN Attributes: non-creatable, non-modifiable
initiator-transport-address		string optional	Initiator Transport Address Attributes: non-creatable, non-modifiable
io-queue-count	**[0..65535]**	integer optional	Number of I/O Queues Attributes: non-creatable, non-modifiable
io-queue-depth	**[0..65535]**	integer[] optional	I/O Queue Depths Attributes: non-creatable, non-modifiable
kato	**[0..2^32-1]**	integer optional	Keep Alive Time Out(msec) Attributes: non-creatable, non-modifiable
lif		string optional	Logical Interface Attributes: non-creatable, non-modifiable
lif-uuid		uuid optional	Logical Interface UUID Attributes: non-creatable, non-modifiable
max-io-size	**[0..2^32-1]**	integer optional	Max IO Size in Bytes Attributes: non-creatable, non-modifiable
node		filer-id optional	Node Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, non-creatable, non-modifiable
subsystem-uuid		uuid optional	Subsystem UUID Attributes: non-creatable, non-modifiable
transport-protocol		nvme-transport optional	Transport Protocol Attributes: non-creatable, non-modifiable Possible values: • "fc_nvme" - NVMe/FC, • "nvme_roce" - NVMe/RoCE, • "nvme_tcp" - NVMe/TCP
trsvcid		string optional	Transport Service Identifier Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-target-subsystem-host-info**

[top]

NVMe subsystem host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
host-nqn		string optional	Host NQN Attributes: key, non-creatable, non-modifiable
io-queue-count	**[1..15]**	integer optional	Number of I/O Queue Pairs Attributes: non-creatable, non-modifiable
io-queue-depth	**[16..128]**	integer optional	I/O Queue Depth Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, non-creatable, non-modifiable
subsystem-uuid		uuid optional	Subsystem UUID Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-target-subsystem-map-info**

[top]

NVMe attached namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
anagrpid	**[0..2^32-1]**	integer optional	ANA Group ID Attributes: non-creatable, non-modifiable
namespace-uuid		uuid optional	Namespace UUID Attributes: non-creatable, non-modifiable
nsid	**[0..2^32-1]**	integer optional	NSID Attributes: key, non-creatable, non-modifiable
path		lun-path optional	Namespace Path Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, non-creatable, non-modifiable
subsystem-uuid		uuid optional	Subsystem UUID Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vdisk-block-size**

[top]

The size in bytes of a logical block. Possible values: 512, 4096.

[none]

Element definition: **volume-error**

[top]

The error code of a given volume.

Name	Range	Type	Description
errno		integer optional	The error code of the snapshot operation for a given volume. It is returned only when an error is found.
name		volume-name	Name of a volume.
reason		string optional	Description of the error. It is returned only when an error is found.
vserver		string optional	Virtual server containing the volume.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **lif-bindable**

[top]

|

[none]

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **lun-path**

[top]

LUN Path

[none]

Element definition: **nvme-namespace-state** [top]

online|offline|nvfail|space-error Possible values:

- "online" - Namespace is administratively online,
- "offline" - Namespace is adminitratively offline or the reason is unknown,
- "nvfail" - Namespace was automatically taken offline due to NVRAM failure,
- "space_error" - Namespace was automatically taken offline due to insufficient space

[none]

Element definition: **nvme-physical-protocol** [top]

fibre-channel|ethernet Possible values:

- "fibre_channel" ,
- "ethernet"

[none]

Element definition: **nvme-transport** [top]

fc-nvme|nvme-tcp Possible values:

- "fc_nvme" - NVMe/FC,
- "nvme_roce" - NVMe/RoCE,
- "nvme_tcp" - NVMe/TCP

[none]

Element definition: **qtree-name** [top]

Qtree Name

[none]

Element definition: **vif-status** [top]

up|down Possible values:

- "up" ,
- "down"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **options**

options-get
options-get-iter
options-list-info
options-modify-iter
options-set

options-get

[top]

Get the value of a single option.

Input Name	Range	Type	Description
name		string	Name of the option.

Output Name	Range	Type	Description
cluster-constraint		string	Indicates the cluster-specific constraints of option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none".
value		string	Value of the option.

Errno	Description
EONTAPI_ENOENT	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

options-get-iter

[top]

Iterate over a list of options objects.

Input Name	Range	Type	Description
desired-attributes		option-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

		optional	will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		option-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the options object. All options objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		option-info[] optional	The list of attributes of options objects.
next-tag		string optional	Tag for the next call. Not present when there are no more options objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

options-list-info

[top]

Get a list of all options

Output Name	Range	Type	Description
options		option-info[] optional	

Errno	Description
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

options-modify-iter

[top]

Modify the attributes of options or a group of options objects.

Input Name	Range	Type	Description
attributes		option-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-		boolean	This input element is useful when multiple options objects match a given query. If set to true, the API will continue modifying the next

failure		optional	matching options even when modification of a previous options fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching options even when the modification of a previous matching options fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		option-info	If modifying a specific options, this input element must specify all keys. If modifying options objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of options objects (just keys) that were not modified due to some error. If set to false, the list of options objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of options objects (just keys) that were successfully updated. If set to false, the list of options objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		options-modify-iter-info[] optional	Information about options objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching options objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of options objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of options objects that matched the query and were successfully updated.
success-list		options-modify-iter-info[] optional	The options objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

options-set

[top]

Set the value of a single option. For complete list of names and values of options, please refer to

options man pages.

Input Name	Range	Type	Description
name		string	Name of the option.
value		string	Value of the option.

Output Name	Range	Type	Description
cluster-constraint		string	Cluster-specific constraint of the option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none".
message		string optional	Informative message that was issued as a result of setting (or trying to set) the option.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

Element definition: **option-info**

[top]

Name	Range	Type	Description
cluster-constraint		string optional	Indicates the cluster-specific constraints of option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
data-type		string optional	Data type of the option 'name'. Possible values are: • "bool" - A boolean true / false value, • "integer" - A decimal integer value, • "unsigned" - A non-negative decimal integer value, • "string" - A UTF-8 character string.

default-value		string optional	Default initial value of this option. The field 'value' contains the current set value and could be different from this.
description		string optional	Brief description of this option.
name		string optional	Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
priv-level		string optional	The privilege level of this option. Possible values are: • admin • advanced • diagnostic • test
value		string optional	Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
vserver		string optional	The name of the vserver to which this option belongs to.

Element definition: **options-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against options object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
options-key		option-info	The keys for the options object to which the modify operation applies.

Element definition: **option-info**

[top]

Name	Range	Type	Description
cluster-constraint		string optional	Indicates the cluster-specific constraints of option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
			Data type of the option 'name'. Possible values are: • "bool" - A boolean true / false value,

data-type		string optional	• "integer" - A decimal integer value, • "unsigned" - A non-negative decimal integer value, • "string" - A UTF-8 character string.
default-value		string optional	Default initial value of this option. The field 'value' contains the current set value and could be different from this.
description		string optional	Brief description of this option.
name		string optional	Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
priv-level		string optional	The privilege level of this option. Possible values are: • admin • advanced • diagnostic • test
value		string optional	Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
vserver		string optional	The name of the vserver to which this option belongs to.

APIs in Category: **perf**

perf-archive-config-get
perf-archive-config-modify
perf-archive-datastore-get-iter
perf-awa-start
perf-awa-stop
perf-object-counter-list-info
perf-object-get-instances
perf-object-instance-list-info-iter
perf-object-list-info
perf-object-start
perf-object-stop
perf-preset-create
perf-preset-delete
perf-preset-detail-get
perf-preset-get-iter
perf-preset-modify
perf-samples-delete
perf-samples-get-iter

The perf APIs enable monitoring of system performance. They provide a single interface to performance data across various subsystems in the appliance. Data are organized hierarchically, with objects, instances, and counters. An object generally represents a subsystem, an instance represents a single physical or logical entity within the subsystem, and a counter is a datum specific to the instance.

An example of the object-instance-counter hierarchy is processor:processor0:processor_busy. Each CPU in the system is an instance of the 'processor' object. The processor_busy counter of the processor0 instance reports the time during which this processor has been active since an arbitrary point in the past. A second counter, processor_elapsed_time, reports the total time, so the change in processor_busy divided by the change in processor_elapsed_time over an interval can be used to compute the average utilization of the processor. Processor_elapsed_time is referred to as the 'base counter' of processor_busy since it is needed to compute a useful value from processor_busy.

A typical user of these APIs will initially request a list of objects using the perf-object-list-info call. The user may then request a list of counters available for instances of an object by calling perf-object-counter-list-info for each interesting object. The sets of objects and counters are static, so these calls will not need to be made again.

The core perf API call is perf-object-get-instances. This API returns the names and raw counter values of instances of an object at the time of the call. Unlike objects and counters, the set of instances is not always fixed, and the values of counters will vary across calls. Typically this API must be called at least twice over some interval in order to evaluate subsystem performance during that interval. Depending on counter properties, the user may need to perform additional computation on the raw value in order to correctly interpret it.

Each counter has a property which indicates how it's raw value should be interpreted. This property is available as part of the static counter metadata returned by a call to perf-object-counter-list-info. Possible properties are 'raw', 'rate', 'delta', 'average', 'percent', 'string', and 'no-display'. String counters report textual information, such as volume or disk identifiers. No-display counters are not intended for direct use, and this property is typically assigned to base counters. The other properties are interpreted as follows:

- raw: single counter value is used
- delta: change in counter value between two samples is used
- rate: delta divided by the time in seconds between samples is used
- average: delta divided by the delta of a base counter is used
- percent: 100*average is used

For 'average' and 'percent' counters, the 'base-counter' element will be set to the name of the base counter. Some counters are multidimensional, and for these the counter description includes a list of labels of the counter subelements, and a 'type' element indicating the counter is an array.

For example, again consider the processor::processor_busy counter. The description and properties of this counter state that it is a percentage, but a call to perf-object-get-instances will return a raw number which must be further processed by the user. Because the counter is a percentage, the user must note the value of its base counter, (processor::processor_elapsed_time) and then make a second call to perf-object-get-instances and again note the raw value of the counter and base counter. Suppose the user made the calls at time T1 and later at time T2, and these raw values were returned (the object and instance name are not shown):

- (T1) processor_busy=2000000, processor_elapsed_time=3000000
- (T2) processor_busy=2400000 ,processor_elapsed_time=4000000

The user must then perform the following computation to determine processor utilization: 100*(2400000-2000000)/(4000000-3000000) = 40%

The perf-object-instance-list-info-iter API may be used to list the names of current instances of an object. It does not return any counter values.

perf-archive-config-get

[top]

Display Cluster-Wide Performance Archive Configuration

Input Name	Range	Type	Description
desired-attributes		archive-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		archive-config-info	The attributes of the perf-archive-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-archive-config-modify

[top]

Modify Cluster-Wide Performance Archive Configuration

Input Name	Range	Type	Description
asup-file-rotation	**[1..1440]**	integer optional	Minutes Between ASUP Data File Rotations
asup-max-retention	**[1..365]**	integer optional	Days to Retain ASUP Archive Data
datastore-file-rotation	**[1..120]**	integer optional	Minutes Between Performance Archive Data File Rotations
datastore-max-percent	**[0..100]**	integer optional	Maximum Percentage of Root Volume Used for Performance Archive Data
datastore-max-retention	**[1..365]**	integer optional	Days to Retain Performance Archive Data
is-enabled		boolean optional	Is the Performance Archive Enabled?
opm-file-rotation	**[1..120]**	integer optional	Minutes Between OPM Data File Rotations
perfstat-duration	**[0..168]**	integer optional	Minutes after Which Perfstat Collection Is Stopped
perfstat-sampling-period	**[0..60]**	integer optional	Minutes Between Perfstat Collections

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-archive-datastore-get-iter

[top]

API retrieves information about all the performance archive datastores in the cluster and their datafiles.

Each performance archive-enabled process in the Data ONTAP cluster will have one or more datastores in which the archive datafiles are stored. These datastores encapsulate the archived performance data in groupings specified by the Data ONTAP cluster's performance preset configurations.

Input Name	Range	Type	Description
age-filter		perf-archive-datafile-age-filter optional	Filters the retrieved information to only include specific datafiles. By default, all datafiles within each datastore are retrieved.
desired-attributes		perf-archive-datastore-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
is-partial-shown		boolean optional	Specifies whether or not to include partial datafiles. By default, all datafiles within each datastore are retrieved.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		perf-	A query that specifies which objects to return. A query could be

query		archive-datastore-info optional	specified on any number of attributes in the perf-archive-datastore object. All perf-archive-datastore objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		perf-archive-datastore-info[] optional	The list of attributes of perf-archive-datastore objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf-archive-datastore objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

perf-awa-start

[top]

Starting AWA

Input Name	Range	Type	Description
aggregate		aggr-name optional	Aggregate
debug-level		integer optional	Debug Level
flash-cache		boolean optional	Flash Cache Node-wide Modeling
interval-length		integer optional	Interval Length (secs)
node		string	Node Name
num-intervals		integer optional	Number of Intervals
pcache-size		integer optional	Pseudo Cache Size (MB)
sampling-factor		integer optional	Sampling Factor
size-limit		integer optional	Size-limit (Mega-Blocks)
sync		boolean optional	Perf Run Sync
working-set-size		boolean optional	Working Set Size

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

perf-awa-stop

[top]

Stoping AWA

Input Name	Range	Type	Description
aggregate		aggr-name optional	Aggregate
flash-cache		boolean optional	Flash cache node-wide modeling
node		string	Node Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-object-counter-list-info

[top]

Get information about the counters of an object. This information is static and independent of any particular instance of the object. It includes counter names and descriptions, as well as properties which are necessary to to interpret counter values.

Input Name	Range	Type	Description
filter-data		filter-data optional	Allows selecting counters from a particular node. An example filter is "node_name=hostname". This element is **deprecated** in Data ONTAP 8.2 and later, as filtering by node is no longer necessary. Each node contains the same set of counter definitions, so filtering by node yields the same results as not filtering at all.
objectname		string	Name of the object to get information for.

Output Name	Range	Type	Description
counters		counter-info[]	List of counters available for instances of this object.

perf-object-get-instances

[top]

Get a list of current counter values of instances of an object. This will return the values of all specified counters and instances of the specified object with one call.

Input Name	Range	Type	Description

counters		counter[] optional	List of counters whose values will be retrieved. This element can be used to limit data collection to a specified subset of the counters of instances of the object. If this element is absent, values of all counters will be retrieved.
filter-data		filter-data optional	Filter to apply to the performance data.
instance-uuids		instance-uuid[] optional	List of instance UUIDs for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object. Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested.
instances		instance[] optional	List of instance names for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object. Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested.
max	**[0..499]**	integer optional	Maximum number of instances.
objectname		string	Name of the object to get counter values for.
privilege-level		string optional	Name of the privilege level. Possible values: "basic", "admin", "advanced", "diag" If the element is absent, the default privilege of the object will be used.
sample-id		string optional	Name of the sample.
sort-key		string optional	Counter used for sorting instances.
sort-order		string optional	Sort order. Possible values are 'ascending' and 'descending'.

Output Name	Range	Type	Description
instances		instance-data[]	List of instances of the object. Each element of this list
timestamp		string	Timestamp in seconds since January 1, 1970.

perf-object-instance-list-info-iter

[top]

Gets the list of names and UUIDs of current instances of an object. This iterative API will return names and UUIDs of the current instances of the specified object; the number of records returned is specified by the max-records input element.

To retrieve all the instances of the specified object, the value of the next-tag output element should be passed in as the value of the tag input element on the subsequent API call.

Input Name	Range	Type	Description
desired-attributes		instance-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

filter-data		string optional	Filter to apply to instance list; see filter-data type for details.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 1000
objectname		string	Name of the object for which to get instance information.
query		instance-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		instance-info[] optional	The list of attributes of perf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

perf-object-list-info

[top]

Get list of performance objects in the system.

Input Name	Range	Type	Description
filter-data		filter-data optional	Allows selecting objects from a particular node. An example filter is "node_name=hostname". This element is **deprecated** in Data ONTAP 8.2 and later as filtering by node is no longer necessary. Each node contains the same set of object definitions, so filtering by node yields the same results as not filtering at all.

Output Name	Range	Type	Description
objects		object-info[]	List of performance objects.

perf-object-start

[top]

Input Name	Range	Type	Description
counter		string optional	Counter

duration		integer optional	Sample Duration in Minutes
filter		string optional	Filter
instance		string optional	Instance
max		integer optional	Tracker Size
object		string optional	Object
preset		string optional	Preset
sample-id		string	Sample Identifier
sample-type		sample-type optional	Sample Type
sort-key		string optional	Counter Used For Sorting
sort-order		sort-order optional	Sort Order

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-object-stop

[top]

Input Name	Range	Type	Description
sample-id		string	Sample Identifier

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-preset-create

[top]

Create a single Performance Preset configuration and all of its details

Input Name	Range	Type	Description
comment		string optional	Preset Description
expiration-length	**[5..1440]**	integer optional validate	Default expiration length (in minutes) until the Performance Preset will be automatically disabled.
is-archive-enabled		boolean optional	Is Preset Enabled?
preset		string	Preset Name

preset-detail-infos		preset-detail-info[] optional	Details of the Performance Preset
privilege		string optional	Privilege level Possible Values: admin, advanced, diagnostic

perf-preset-delete

[top]

Delete a Performance Preset and all of its Preset Details

Input Name	Range	Type	Description
preset		string	Preset Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-preset-detail-get

[top]

Get detailed information about a single Performance Preset configuration

Input Name	Range	Type	Description
preset		string	Preset Name

Output Name	Range	Type	Description
comment		string optional	Preset Description
expiration-end-date	**[0..2^32-1]**	integer optional	Date when the Preset will be automatically disabled, represented as the number of seconds since January 1, 1970.
expiration-length	**[5..1440]**	integer optional	Default expiration length (in minutes) until the Performance Preset will be automatically disabled.
generation-id	**[0..2^32-1]**	integer	Preset Generation ID
is-archive-enabled		boolean	Is Preset Archive-Enabled?
is-read-only		boolean	Is Preset Read-Only?
preset		string	Preset Name
preset-detail-infos		preset-detail-info[]	The details of the Performance Preset configuration
privilege		string optional	Preset Privilege Level Possible Values: admin, advanced, diagnostic
uuid		uuid	Preset UUID

perf-preset-get-iter

[top]

Iteratively get information about Performance Presets

Input Name	Range	Type	Description
desired-attributes		preset-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		preset-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the perf-preset object. All perf-preset objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		preset-info[] optional	The list of attributes of perf-preset objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf-preset objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

perf-preset-modify

[top]

Modify a Performance Preset

Input Name	Range	Type	Description
comment		string optional	Preset Description
expiration-length	**[0..1440]**	integer optional	Default Expiration Length (Minutes)
is-archive-enabled		boolean optional	Is Preset Archive-Enabled?
new-name		string optional	New Preset Name
preset		string	Preset Name
privilege		privilege-level optional	Preset Privilege Level

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-samples-delete

[top]

Input Name	Range	Type	Description
force		boolean optional	Force Delete
sample-id		string	Sample Identifier
vserver		vserver-name	Vserver

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-samples-get-iter

[top]

Returns list of samples

Input Name	Range	Type	Description
desired-attributes		sample-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		sample-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sample-info[] optional	The list of attributes of perf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **archive-config-info**

[top]

Performance Archive Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
asup-file-rotation	**[1..1440]**	integer optional	Minutes Between ASUP Data File Rotations Attributes: non-creatable, modifiable
asup-max-retention	**[1..365]**	integer optional	Days to Retain ASUP Archive Data Attributes: non-creatable, modifiable
datastore-file-rotation	**[1..120]**	integer optional	Minutes Between Performance Archive Data File Rotations Attributes: non-creatable, modifiable
datastore-max-percent	**[0..100]**	integer optional	Maximum Percentage of Root Volume Used for Performance Archive Data Attributes: non-creatable, modifiable
datastore-max-retention	**[1..365]**	integer optional	Days to Retain Performance Archive Data Attributes: non-creatable, modifiable
datastore-path		string optional	Base Path of Performance Archive Datastore Attributes: non-creatable, non-modifiable
enabled-presets		enabled-preset[] optional	Archive-Enabled Performance Preset Info
is-enabled		boolean optional	Is the Performance Archive Enabled? Attributes: non-creatable, modifiable
opm-file-rotation	**[1..120]**	integer optional	Minutes Between OPM Data File Rotations Attributes: non-creatable, modifiable
perfstat-duration	**[0..168]**	integer optional	Minutes after Which Perfstat Collection Is Stopped Attributes: non-creatable, modifiable
perfstat-end-date		datetime optional	Date Perfstat Collection Will Be Turned off Attributes: non-creatable, non-modifiable
perfstat-sampling-period	**[0..60]**	integer optional	Minutes Between Perfstat Collections Attributes: non-creatable, modifiable
sw-image-client		string optional	Software Client of Installed Image Attributes: non-creatable, non-modifiable
version		string	This field is deprecated in ONTAP 9.8.0 and later. Please use sw-

		optional	image-client instead. Attributes: non-creatable, non-modifiable

Element definition: **counter**

[top]

Counter Name

[none]

Element definition: **counter-info**

[top]

Information about a single counter.

Name	Range	Type	Description
aggregation-style		string optional	For counters that can be aggregated, this element decribes the style. If the element is absent, no aggregation is available for this counter. Valid values include: [strict, permissive]. "strict" aggregation requires all items of a set to perform aggregation. If any item is missing, the aggregation will be rejected. "permissive" aggregation is a best effort aggregation. All available items of a set will be aggregated. Aggregation-style is **deprecated** in Data ONTAP 8.2 and later. This field has never been used.
base-counter		string optional	Name of the counter used as the denominator to calculate values of counters involving averages and percentages.
desc		string	Description of the counter
is-deprecated		boolean optional	True if the counter is deprecated.
is-key		boolean optional	True if the counter is a key counter. A set of key counters for an object can be used to uniquely identify instances of an object.
labels		label-info[] optional	List of labels of an array type counter.
name		string	Name of the counter.
privilege-level		string	Privilege level of the counter. Any counter with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged. Possible values: basic, admin, advanced or diag.
properties		string optional	Comma separated list of properties of the counter. The counter properties determine how raw counter values should be interpreted. Possible values: raw, rate, delta, percent, string, no-display and no-zero-values.
replaced-by		string optional	Replacement counter if this counter is deprecated.
translation-input-counter		string optional	Name of counter that is used as input for translation. Translation is needed for some counters because the precise value is unknown at the moment of sampling, and must be determined from another counter at a later time. Note that the time frame is still within a single request and response from the ZAPI client's point of view. Translation-input-counter is **deprecated** in Data ONTAP 8.2 and later.

			This field does not convey necessary information for about counters. It was previously used for diagnostic purposes, but it is no longer needed.
type		string optional	Indicator for whether counter is a scalar or array. If this element is absent,the counter is a scalar. Possible values: array
unit		string optional	Unit of the counter Possible values: per_sec, b_per_sec (bytes/s), kb_per_sec (Kbytes/s), mb_per_sec (Mbytes/s), percent, millisec, microsec, nanosec, sec, or none

Element definition: **filter-data**

[top]

A string, representing filter data, in the format of key=value pairs. Multiple pairs can be specified via comma (",") or pipe ("|") separation. The applied filter is a combination of ANDing and ORing the key-value pairs.

A comma indicates ANDing, a pipe indicates ORing, and the order of precedence is AND and then OR. For example, "`instance_name=volA,vserver_name=vs1|vserver_name=vs2`" equates to "`(instance_name=volA && vserver_name=vs1) | (vserver_name=vs2)`". This would return instances on Vserver `vs1` with name `volA` and all instances on Vserver `vs2`.

[none]

Element definition: **instance**

[top]

Instance name.

[none]

Element definition: **instance-data**

[top]

Instance name and counter values.

Name	Range	Type	Description
aggregation		aggregation-data optional	Information related to aggregation that was done. If element is absent, no aggregation was performed on this instance.
counters		counter-data[]	List of counter values of this instance. Each element of this list contains the value of a single counter.
name		string	Name of the instance
sort-id		integer	Sort ID of the instance
uuid		string	UUID of the instance

[top]

Element definition: **instance-info**

Information about an object's instance When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
name		string optional	Name of the instance Attributes: key, non-creatable, non-modifiable
uuid		string optional	UUID of the instance Attributes: key, non-creatable, non-modifiable

Element definition: **instance-uuid**

[top]

Instance UUID.

[none]

Element definition: **object-info**

[top]

Description of a performance object.

Name	Range	Type	Description
description		string optional	Description of the object
get-instances-preferred-counter		string optional	Name of the counter, either instance_name or instance_uuid, which should be used for perf-object-get-instances ZAPI for optimal performance. If this element is absent for an object, the value of this element defaults to instance_name counter. This element is a performance hint for getting optimal performance for the perf-object-get-instances ZAPI. If the value of this element is set to instance UUID counter of an object, using the instance UUID counter in the perf-object-get-instances query will return the counter information faster than using instance name counter. Otherwise, instance_name will yield faster results.
is-deprecated		boolean optional	True if the object is deprecated.
name		string	Name of the object
privilege-level		string	The object privilege level. Any object with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged. Possible values: basic, admin, advanced or diag.
replaced-by		string optional	Replacement object if this object is deprecated.

Element definition: **perf-archive-datafile-age-filter**

[top]

The filter limits output such that all datafiles, only the newest datafile, or only the oldest datafile is returned. Possible values:

- "all" - no filter--return all datafiles,
- "newest" - only return newest datafile,
- "oldest" - only return oldest datafile

[none]

Element definition: **perf-archive-datastore-info**

[top]

Information about a single performance archive datastore in the Data ONTAP cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
datastore		string optional	Name of the datastore. Attributes: key, non-creatable, non-modifiable
is-enabled		boolean optional	Is the datastore currently collecting data? Attributes: non-creatable, non-modifiable
node		node-name optional	Name of Data ONTAP node owning the datastore. Attributes: key, non-creatable, non-modifiable
oldest-timestamp		datetime optional	Timestamp of the oldest datafile in the datastore (UTC). Attributes: non-creatable, non-modifiable
path		string optional	Path to the datastore directory on the owning node's root volume. For example: /mroot/etc/log/stats/ccma/kernel/ Attributes: non-creatable, non-modifiable
perf-archive-datafile-infos		perf-archive-datafile-info[] optional	Information about a single performance archive datafile within a datastore.
process		string optional	Name of Data ONTAP system process owning the datastore. Attributes: key, non-creatable, non-modifiable
size		size optional	Total size of the datastore (bytes). Attributes: non-creatable, non-modifiable

Element definition: **preset-detail-info**

[top]

Performance Preset Detail information, including specific objects, counter sets, instance filters, and associated sample period information for the Performance Archive.

Name	Range	Type	Description
counter-set		counter[]	Counter Name Set
generation-id	**[0..2^32-1]**	integer optional	Preset Detail Generation ID As input, this field must not be specified; as output, this field is always present.
instance-filters		filter[] optional	Instance Filters
object		string	Performance Object
sample-period		string optional	Performance Archive Sample Period As input, this field is optional; as output, this field is always present. Possible Values: none, 1s, 5s, 10s, 30s, 1m, 5m, 10m, 30m, 1h, 6h, 12h, 1d, 1w, config Default: none

Element definition: **preset-info**

[top]

Performance Preset information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	Preset Description Attributes: optional-for-create, modifiable
expiration-end-date		datetime optional	Date/Time Preset Expires Attributes: non-creatable, non-modifiable
expiration-length	**[0..1440]**	integer optional	Default Expiration Length (Minutes) Attributes: optional-for-create, modifiable
generation-id	**[0..2^32-1]**	integer optional	Preset Generation ID Attributes: non-creatable, non-modifiable
is-archive-enabled		boolean optional	Is Preset Archive-Enabled? Attributes: non-creatable, modifiable
is-read-only		boolean optional	Is Preset Read-Only? Attributes: non-creatable, non-modifiable
new-name		string optional	New Preset Name Attributes: non-creatable, modifiable
preset		string optional	Preset Name Attributes: key, required-for-create, non-modifiable
privilege		privilege-level	Preset Privilege Level Attributes: optional-for-create, modifiable

		optional	
uuid		uuid optional	Preset UUID Attributes: non-creatable, non-modifiable

Element definition: **privilege-level**

[top]

Level of Privilege

[none]

Element definition: **sample-info**

[top]

Sample Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
counter		string[] optional	List of Counters Attributes: non-creatable, non-modifiable
duration	**[0..2^32-1]**	integer optional	Sample Duration in Minutes Attributes: non-creatable, non-modifiable
error-description		string optional	Error in Sample Collection Attributes: non-creatable, non-modifiable
filter		string optional	Filter Data Attributes: non-creatable, non-modifiable
instance		string[] optional	List of Instances Attributes: non-creatable, non-modifiable
max	**[0..2^32-1]**	integer optional	Maximum Number of Instances Attributes: non-creatable, non-modifiable
object		string[] optional	List of Objects Attributes: non-creatable, non-modifiable
privilege		privilege-level optional	Privilege Level Attributes: non-creatable, non-modifiable
sample-id		string optional	Sample Identifier Attributes: key, non-creatable, non-modifiable
sample-status		sample-status optional	Sample Collection Status Attributes: non-creatable, non-modifiable Possible values: • "ready" , • "processing" , • "error" , • "deleting"

sample-type		sample-type optional	Sample Type Attributes: non-creatable, non-modifiable Possible values: • "user" , • "system"
sort-key		string optional	Counter Used For Sorting Attributes: non-creatable, non-modifiable
sort-order		sort-order optional	Sort Order Attributes: non-creatable, non-modifiable Possible values: • "ascending" - Ascending, • "descending" - Descending
start-time	**[0..2^31-1]**	integer optional	Sample Start Time Attributes: non-creatable, non-modifiable
stop-time	**[0..2^31-1]**	integer optional	Sample Stop Time Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **sample-type**

[top]

User|System Possible values:

- "user" ,
- "system"

[none]

Element definition: **sort-order**

[top]

ascending|descending Possible values:

- "ascending" - Ascending,
- "descending" - Descending

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **aggregation-data** [top]

Information related to aggregation that was done.

Name	Range	Type	Description
constituent-count	**[0..2^32-1]**	integer optional	Number of constituents used to aggregate this instance.
result		string optional	Each counter for an instance can be part of an aggregation set. Each counter can either have a strict or permissive aggregation. (Basically whether an aggregation with missing data samples in the aggregation set can be considered valid.) Possible values: "complete_aggregation", "partial_aggregation" • If aggregation is 'strict', and we have all of the data samples, we return: complete_aggregation • If aggregation is 'strict' and we DON'T have all of the data samples, we return: partial_aggregation • If aggregation is 'strict' and we only have one instance (such as a flex vole) we return: complete_aggregation • If aggregation is 'permissive', we always return: complete_aggregation (since the results are always valid) NOTE: Since a given node DOES NOT have enough information to determine all of the members of the set, we have to assume if we can't contact a given node/process that may contain a piece to be aggregated, the aggregation is incomplete. (For example, if we're trying to aggregate 'volume' stats, and we can't contact the local dblade or a remote node, we'll mark it as incomplete.)

Element definition: **counter** [top]

Counter Name

[none]

Element definition: **counter-data**

[top]

Value of a single counter of an instance of an object at the time of the call.

Name	Range	Type	Description
name		string	Name of the counter
value		string	Value of the counter. If the counter type is array, this is a comma separated list of values. The counter properties and units must be known in order to interpret this value. Refer to the perf API discussion for details on how raw counter values are interpreted.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **enabled-preset**

[top]

Archive-Enabled Performance Preset Info

Name	Range	Type	Description
preset		string optional	Enabled Performance Preset Names Attributes: non-creatable, non-modifiable

Element definition: **filter**

[top]

Instance filter specified as a comma-seperated list of "counter=value" pairs.

[none]

Element definition: **label-info**

[top]

Comma separated list of labels of an array type counter.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **perf-archive-datafile-info**

[top]

Information about a single performance archive datafile within a datastore.

Name	Range	Type	Description
duration	**[0..2^32-1]**	integer optional	Length of time between the first and last record stored in the datafile (ms). Attributes: non-creatable, non-modifiable
filenames		filename[] optional	Names of the individual files which comprise the datafile. Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Internal quota management index of the datafile. Attributes: non-creatable, non-modifiable
max-period		perf-archive-sample-period optional	Longest performance archive sample period stored in the datafile--all shorter periods will also be in the datafile. Attributes: non-creatable, non-modifiable
size		size optional	Size of the datafile (bytes). Attributes: non-creatable, non-modifiable
state		ccma-datafile-state optional	State of the datafile. Attributes: non-creatable, non-modifiable Possible values: • "partial" - datafile is incomplete, • "unlocked" - datafile is complete but may be deleted, • "locked" - datafile is complete and protected from deletion
timestamp		datetime optional	Timestamp of when the datafile was written to disk (UTC). Attributes: non-creatable, non-modifiable

Element definition: **privilege-level**

[top]

Level of Privilege

[none]

Element definition: **sample-status**

[top]

Ready|Processing|Error|Deleting Possible values:

- "ready" ,
- "processing" ,
- "error" ,
- "deleting"

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **ccma-datafile-state** [top]

Performance Archive Datafile State Possible values:

- "partial" - datafile is incomplete,
- "unlocked" - datafile is complete but may be deleted,
- "locked" - datafile is complete and protected from deletion

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filename** [top]

File Name (including extension)

[none]

Element definition: **perf-archive-sample-period** [top]

The performance archive sample period is the amount of time between data samples in the performance archive.

[none]

APIs in Category: **platform-cap**

platform-cap-get-iter	This interface is used to access information about the Controllers capabilities in the system.

platform-cap-get-iter

[top]

Iterate over a list of Platform Capability Support objects.

Input Name	Range	Type	Description
desired-attributes		platform-cap-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		platform-cap-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Platform Capability Support object. All Platform Capability Support objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		platform-cap-info[] optional	The list of attributes of Platform Capability Support objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Platform Capability Support objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **platform-cap-info**

[top]

Platform Capability Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
capability-id	**[0..2^32-1]**	integer optional	Capability ID Attributes: key, non-creatable, non-modifiable
name		string optional	Capability Name Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
supported		string optional	Supported? Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **portset**

portset-add
portset-create
portset-destroy
portset-get-iter
portset-list-info
portset-remove

Portsets are associated with igroups. If an igroup is not associated with a portset then an initiator that belongs to that igroup can see its target luns on all ports. If a portset is bound to an igroup then the initiator that belongs to that igroup can only see its target luns on the ports that belong to the portset.

portset-add

[top]

Add a port to an existing portset

Input Name	Range	Type	Description
portset-name		string	Name of portset.
portset-port-name		string	This is the name of the port that is to be added to the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will add the port from a specific filer. For example: "buxton:4a" The slotletter format will add the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_SET	
EVDISK_ERROR_PORTSET_HAS_PORT	
EVDISK_ERROR_PORTSET_TOO_MANY_PORTS	
EVDISK_ERROR_PORTSET_INVALID_PORT_NAME	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME	
EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
EVDISK_ERROR_PORTSET_WRONG_TYPE	
E_SAN_NOT_READY	

portset-create

[top]

Create a portset

Input Name	Range	Type	Description
portset-name		string	Name of the portset to create.
portset-		string	Protocols accepted for this portset. Possible values: "fcp", "iscsi", "mixed".

type			"iscsi" and "mixed" are available in Data ONTAP Cluster-Mode only.

Errno	Description
EVDISK_ERROR_PORTSET_ALREADY_EXIST	
EVDISK_ERROR_PORTSET_INVALID_TYPE	
EVDISK_ERROR_PORTSET_IC_DOWN	
EVDISK_ERROR_PORTSET_NO_SUCH_PORT	
EVDISK_ERROR_PORTSET_WRONG_TYPE	
EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME	
EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
E_SAN_NOT_READY	

portset-destroy

[top]

Destroys an existing portset. By default a set cannot be destroyed if there are existing igroup associated with that portset.

Input Name	Range	Type	Description
force		boolean optional	If 'false' or not specified, the request will fail if there are any igroups bound to this portset. If 'true', forcibly destroy the portset, even if there are existing igroup bindings. Best practice is to unbind all the associated igroups before destroying the igroup.
portset-name		string	Name of the portset to destroy.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_GROUP	
EVDISK_ERROR_PORTSET_CANT_DESTROY_BOUND_PORTSET	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
E_SAN_NOT_READY	

portset-get-iter

[top]

Iterate over a list of portset objects.

Input Name	Range	Type	Description
desired-attributes		portset-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		portset-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the portset object. All portset objects matching this query up to 'max-records' will be

		optional	returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		portset-info[] optional	The list of attributes of portset objects.
next-tag		string optional	Tag for the next call. Not present when there are no more portset objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

portset-list-info

[top]

Get information for portset(s).

Input Name	Range	Type	Description
portset-name		string optional	Name of portset. If specified, only information for that set is returned. If not specified, information for all portsets are returned.

Output Name	Range	Type	Description
portset-sets		portset-info[]	List of portsets.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_GROUP	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	

portset-remove

[top]

Removes a port from a portset.

Input Name	Range	Type	Description
portset-name		string	Name of the portset.
portset-port-name		string	This is the name of the port that is to be removed from the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will remove the port from a specific filer. For example: "buxton:4a" The slotletter format will remove the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group.

Errno	Description
EVDISK_ERROR_PORTSET_INVALID_PORT_NAME	
EVDISK_ERROR_PORTSET_NO_SUCH_GROUP	
EVDISK_ERROR_PORTSET_NO_SUCH_PORT	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
EVDISK_ERROR_INITGROUP_ALREADY_BOUND	
E_SAN_NOT_READY	

Element definition: **portset-info**

[top]

Information about a portset.

Name	Range	Type	Description
initiator-group-info		initiator-group-name[] optional	Information about the initiator group(s) that are bound to the portset.
portset-name		string	Name of this portset.
portset-port-info		portset-port-name[] optional	Information about the ports belonging to the set.
portset-port-total	**[0..1024]**	integer	Total number of ports in the portset.
portset-type		string	Possible values: "fcp", "iscsi", "mixed".
portset-uuid		uuid optional	The Universally Unique Identifier of the portset. This field is available in Data ONTAP 8.3.0 and later.
vserver		string	Vserver containing this portset.

Element definition: **initiator-group-name**

[top]

The name of an initiator group

[none]

Element definition: **portset-port-name**

[top]

String representing a member of a portset. In Data ONTAP 7-Mode, the port name is of the format "filer:slotletter" or "slotletter". In Data ONTAP Cluster-Mode, the port name is the name of an FCP data lif or iSCSI target portal group.

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **qos**

cache-policy-get
cache-policy-get-iter
cache-policy-modify
cache-policy-modify-iter
qos-adaptive-policy-group-create
qos-adaptive-policy-group-delete
qos-adaptive-policy-group-delete-iter
qos-adaptive-policy-group-get
qos-adaptive-policy-group-get-iter
qos-adaptive-policy-group-modify
qos-adaptive-policy-group-modify-iter
qos-adaptive-policy-group-rename
qos-policy-group-create
qos-policy-group-delete
qos-policy-group-delete-iter
qos-policy-group-get
qos-policy-group-get-iter
qos-policy-group-modify
qos-policy-group-modify-iter
qos-policy-group-rename
qos-settings-read-ahead-create
qos-settings-read-ahead-destroy
qos-settings-read-ahead-destroy-iter
qos-settings-read-ahead-get
qos-settings-read-ahead-get-iter
qos-settings-read-ahead-modify
qos-settings-read-ahead-modify-iter
qos-workload-delete
qos-workload-delete-iter
qos-workload-get
qos-workload-get-iter
qos-workload-modify
qos-workload-modify-iter
qos-workload-policy-

These APIs enable management of Quality of Service (QoS) workloads and policy groups. QoS allows users to use a policy group to control a set of storage objects known as workloads - LUNs, volumes, files, or Vservers. Policy groups define measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. A typical user of these APIs will first create a policy group with the qos-policy-group-create API. The caller must specify a unique name for the new policy group. The UUID of the newly create policy group is returned by this API, and should be used to identify the policy group in all subsequent operations. After a policy group is created, one can use a storage object API to apply the policy group to the storage object. For example, the vserver-create API or the vserver-modify API can be used to apply the policy group to the Vserver when the qos-policy-group parameter is given.

count-get

cache-policy-get

[top]

Get the attributes of an Cache policy.

Input Name	Range	Type	Description
cache-policy-name		string	Name of the QoS Cache policy
desired-attributes		cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cache-info	The attributes of the qos-settings-cache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cache-policy-get-iter

[top]

Iterate over the list of available Cache policies.

Input Name	Range	Type	Description
desired-attributes		cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-cache object. All qos-settings-cache objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cache-info[] optional	The list of attributes of qos-settings-cache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-settings-cache objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cache-policy-modify

[top]

Modify an existing Cache policy. Only default field in the row is modifiable

Input Name	Range	Type	Description
cache-policy-name		string	Name of the QoS Cache policy
is-default		boolean optional	Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cache-policy-modify-iter

[top]

Modify multiple Cache settings

Input Name	Range	Type	Description
attributes		cache-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-settings-cache objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-cache even when modification of a previous qos-settings-cache fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-cache even when the modification of a previous matching qos-settings-cache fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		cache-info	If modifying a specific qos-settings-cache, this input element must specify all keys. If modifying qos-settings-cache objects based on query, this input element must specify a query.
			If set to true, the API will return the list of qos-settings-cache

return-failure-list		boolean optional	objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-cache objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-settings-cache objects (just keys) that were successfully updated. If set to false, the list of qos-settings-cache objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		cache-policy-modify-iter-info[] optional	Information about qos-settings-cache objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-settings-cache objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-settings-cache objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-settings-cache objects that matched the query and were successfully updated.
success-list		cache-policy-modify-iter-info[] optional	The qos-settings-cache objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-adaptive-policy-group-create

[top]

Create an adaptive policy group. A unique name must be provided for the new adaptive policy group. A QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the adaptive policy group is associated.

Input Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75.
			Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values:

block-size		qos-block-size optional	• "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size.
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values: • "used_space" , • "allocated_space"
peak-iops		qos-tput-capacity	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size.
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values: • "allocated_space" , • "used_space"
policy-group		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.
return-record		boolean optional	If set to true, returns the qos-adaptive-policy-group on successful creation. Default: false
vserver		vserver-name	The Data Vserver to which the adaptive policy group belongs.

Output Name	Range	Type	Description
result		qos-adaptive-policy-group-info optional	The qos-adaptive-policy-group created (keys or the entire object if requested)

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED	

qos-adaptive-policy-group-delete

[top]

Delete single adaptive policy group. The default adaptive policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true.

Input Name	Range	Type	Description
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'.
policy-group		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-adaptive-policy-group-delete-iter

[top]

Delete multiple policy groups

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-adaptive-policy-group even when the operation fails for the qos-adaptive-policy-group. If set to false, the API will return on the first failure. Default: false
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-adaptive-policy-group even when the operation on a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of qos-adaptive-policy-group objects to be operated in this call. Default: 20
query		qos-adaptive-policy-group-info	If operating on a specific qos-adaptive-policy-group, this input element must specify all keys. If operating on qos-adaptive-policy-group objects based on query, this input element must specify a query.
return-		boolean	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not operated on due to some

failure-list		optional	error. If set to false, the list of qos-adaptive-policy-group objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-adaptive-policy-group objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-adaptive-policy-group-delete-iter-info[] optional	Information about qos-adaptive-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of qos-adaptive-policy-group objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-adaptive-policy-group objects that matched the query and were successfully processed.
success-list		qos-adaptive-policy-group-delete-iter-info[] optional	The qos-adaptive-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-adaptive-policy-group-get

[top]

Get the attributes of an adaptive policy group.

Input Name	Range	Type	Description
desired-attributes		qos-adaptive-policy-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-group		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9)

			or '-'.

Output Name	Range	Type	Description
attributes		qos-adaptive-policy-group-info	The attributes of the qos-adaptive-policy-group.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-adaptive-policy-group-get-iter

[top]

Iterate over list of adaptive policy groups.

Input Name	Range	Type	Description
desired-attributes		qos-adaptive-policy-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-adaptive-policy-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-adaptive-policy-group object. All qos-adaptive-policy-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-adaptive-policy-group-info[] optional	The list of attributes of qos-adaptive-policy-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-adaptive-policy-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-adaptive-policy-group-modify

[top]

Modify an adaptive policy group.

Input Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75.
block-size		qos-block-size optional	Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values: • "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity optional	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size.
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values: • "used_space" , • "allocated_space"
peak-iops		qos-tput-capacity optional	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size.
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values: • "allocated_space" , • "used_space"
policy-			Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and

group		string	'_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	

qos-adaptive-policy-group-modify-iter

[top]

Modify multiple adaptive policy groups

Input Name	Range	Type	Description
attributes		qos-adaptive-policy-group-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-adaptive-policy-group even when modification of a previous qos-adaptive-policy-group fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-adaptive-policy-group even when the modification of a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		qos-adaptive-policy-group-info	If modifying a specific qos-adaptive-policy-group, this input element must specify all keys. If modifying qos-adaptive-policy-group objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-adaptive-policy-group objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-adaptive-policy-group objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

failure-list		qos-adaptive-policy-group-modify-iter-info[] optional	Information about qos-adaptive-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-adaptive-policy-group objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-adaptive-policy-group objects that matched the query and were successfully updated.
success-list		qos-adaptive-policy-group-modify-iter-info[] optional	The qos-adaptive-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOBJECTNOTFOUND	

qos-adaptive-policy-group-rename

[top]

Rename a QoS adaptive policy group

Input Name	Range	Type	Description
new-name		string	New adaptive policy group name
policy-group-name		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_PG_ALREADY_EXISTS	

qos-policy-group-create

[top]

Create a policy group. A unique name must be provided for the new policy group. A QoS Policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated.

Input Name	Range	Type	Description
is-shared		boolean optional	Policy group shared state. Default: true.

max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
policy-group		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.
return-record		boolean optional	If set to true, returns the qos-policy-group on successful creation. Default: false
vserver		vserver-name	The Data Vserver to which the policy group belongs.

Output Name	Range	Type	Description
result		qos-policy-group-info optional	The qos-policy-group created (keys or the entire object if requested)

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED	

qos-policy-group-delete

[top]

Delete single policy group. The default policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true. Only user defined policy groups may be deleted.

Input Name	Range	Type	Description
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'.
policy-group		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-policy-group-delete-iter

[top]

Delete multiple policy groups

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-policy-group even when the operation fails for the qos-policy-group. If set to false, the API will return on the first failure. Default: false
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'.
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-policy-group even when the operation on a previous matching qos-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of qos-policy-group objects to be operated in this call. Default: 20
query		qos-policy-group-info	If operating on a specific qos-policy-group, this input element must specify all keys. If operating on qos-policy-group objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were not operated on due to some error. If set to false, the list of qos-policy-group objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-policy-group objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-policy-group-delete-iter-info[] optional	Information about qos-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-policy-group objects to be operated on.

num-failed	**[0..2^32-1]**	integer optional	The number of qos-policy-group objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-policy-group objects that matched the query and were successfully processed.
success-list		qos-policy-group-delete-iter-info[] optional	The qos-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-policy-group-get

[top]

Get the attributes of a policy group.

Input Name	Range	Type	Description
desired-attributes		qos-policy-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-group		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Output Name	Range	Type	Description
attributes		qos-policy-group-info	The attributes of the qos-policy-group.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-policy-group-get-iter

[top]

Iterate over list of policy groups.

Input Name	Range	Type	Description
desired-attributes		qos-policy-group-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

		info optional	will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-policy-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-policy-group object. All qos-policy-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-policy-group-info[] optional	The list of attributes of qos-policy-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-policy-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-policy-group-modify

[top]

Modify an existing policy group.

Input Name	Range	Type	Description
max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
			Name of the policy group. Policy group names must be unique and are

policy-group		string	restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	

qos-policy-group-modify-iter

[top]

Modify multiple policy groups

Input Name	Range	Type	Description
attributes		qos-policy-group-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-policy-group even when modification of a previous qos-policy-group fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-policy-group even when the modification of a previous matching qos-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		qos-policy-group-info	If modifying a specific qos-policy-group, this input element must specify all keys. If modifying qos-policy-group objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-policy-group objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-policy-group objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-policy-group-modify-iter-	Information about qos-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.

		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-policy-group objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-policy-group objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-policy-group objects that matched the query and were successfully updated.
success-list		qos-policy-group-modify-iter-info[] optional	The qos-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOBJECTNOTFOUND	

qos-policy-group-rename

[top]

Rename a QoS Policy Group

Input Name	Range	Type	Description
new-name		string	New Policy Group Name
policy-group-name		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_PG_ALREADY_EXISTS	

qos-settings-read-ahead-create

[top]

Create a new read-ahead setting. A unique name must be provided for the new read-ahead setting. If the 'default' field is set to true, these become the default read-ahead settings for settings that don't otherwise name read-ahead settings. Unless creating a new default, creating read-ahead settings should usually be assigned to an existing QoS setting.

Input Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment
default		boolean optional	Specifies whether this is the default readahead setting
disk-response-factor	**[1..10]**	integer optional	Disk response time factor
disk-response-	**[0..100]**	integer	Weight for disk response time aging (%)

weight		optional	
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted
force-dump		boolean optional	Force DUMP-style readahead
force-full		boolean optional	Force full-file readahead
force-none		boolean optional	Disable readahead
interarrival-weight	**[0..100]**	integer optional	Weight for interarrival time aging (%)
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%)
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate
max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms)
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms)
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks)
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us)
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms)
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks)
min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks)
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us)
overshoot	**[0..500]**	integer optional	Allowable overshoot (%)
read-ahead-class		qos-class optional	Readahead setting class Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
read-ahead-setting-name		string	Name of QoS Readahead Setting.
return-record		boolean optional	If set to true, returns the qos-settings-read-ahead on successful creation. Default: false
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling
		boolean	

use-async		optional	Use asynchronous speculation
use-feedback		boolean optional	Provide cache-miss feedback
use-histogram		boolean optional	Use Histogram-based predictions
use-timing		boolean optional	Use timing algorithms

Output Name	Range	Type	Description
result		qos-settings-read-ahead-info optional	The qos-settings-read-ahead created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

qos-settings-read-ahead-destroy

[top]

Destroy single read-ahead setting. The default setting may not be destroyed. The setting may not be attached to any workloads. Only user defined settings may be destroyed.

Input Name	Range	Type	Description
read-ahead-setting-name		string	Name of QoS Readahead Setting.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-settings-read-ahead-destroy-iter

[top]

Destroy multiple read-ahead settings.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1

max-records	**[1..2^32-1]**	integer optional	The maximum number of qos-settings-read-ahead objects to delete in this call. Default: 20
query		qos-settings-read-ahead-info	If deleting a specific qos-settings-read-ahead, this input element must specify all keys. If deleting multiple qos-settings-read-ahead objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not deleted due to some error. If set to false, the list of qos-settings-read-ahead objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully deleted. If set to false, the list of qos-settings-read-ahead objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-settings-read-ahead-destroy-iter-info[] optional	Information about qos-settings-read-ahead objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-settings-read-ahead objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-settings-read-ahead objects that matched the query and were successfully deleted.
success-list		qos-settings-read-ahead-destroy-iter-info[] optional	The qos-settings-read-ahead objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-settings-read-ahead-get

[top]

Get the attributes of a read-ahead setting.

Input Name	Range	Type	Description
		qos-	

desired-attributes		settings-read-ahead-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
read-ahead-setting-name		string	Name of QoS Readahead Setting.

Output Name	Range	Type	Description
attributes		qos-settings-read-ahead-info	The attributes of the qos-settings-read-ahead.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-settings-read-ahead-get-iter

[top]

Iterate over list of read-ahead settings.

Input Name	Range	Type	Description
desired-attributes		qos-settings-read-ahead-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-settings-read-ahead-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-read-ahead object. All qos-settings-read-ahead objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-settings-read-ahead-info[] optional	The list of attributes of qos-settings-read-ahead objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-settings-read-ahead objects to return.
	[0..2^32-		

num-records	**1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-settings-read-ahead-modify

[top]

Modify an existing read-ahead setting.

Input Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment
default		boolean optional	Specifies whether this is the default readahead setting
disk-response-factor	**[1..10]**	integer optional	Disk response time factor
disk-response-weight	**[0..100]**	integer optional	Weight for disk response time aging (%)
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted
force-dump		boolean optional	Force DUMP-style readahead
force-full		boolean optional	Force full-file readahead
force-none		boolean optional	Disable readahead
interarrival-weight	**[0..100]**	integer optional	Weight for interarrival time aging (%)
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%)
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate
max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms)
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms)
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks)
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us)
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms)
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks)

min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks)
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us)
overshoot	**[0..500]**	integer optional	Allowable overshoot (%)
read-ahead-setting-name		string	Name of QoS Readahead Setting.
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling
use-async		boolean optional	Use asynchronous speculation
use-feedback		boolean optional	Provide cache-miss feedback
use-histogram		boolean optional	Use Histogram-based predictions
use-timing		boolean optional	Use timing algorithms

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-settings-read-ahead-modify-iter

[top]

Modify multiple read-ahead settings

Input Name	Range	Type	Description
attributes		qos-settings-read-ahead-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-read-ahead even when modification of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-read-ahead even when the modification of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
		qos-settings-	If modifying a specific qos-settings-read-ahead, this input element

query		read-ahead-info	must specify all keys. If modifying qos-settings-read-ahead objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-read-ahead objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully updated. If set to false, the list of qos-settings-read-ahead objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-settings-read-ahead-modify-iter-info[] optional	Information about qos-settings-read-ahead objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-settings-read-ahead objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-settings-read-ahead objects that matched the query and were successfully updated.
success-list		qos-settings-read-ahead-modify-iter-info[] optional	The qos-settings-read-ahead objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-workload-delete

[top]

Delete a single workload. Only user defined workloads may be deleted.

Input Name	Range	Type	Description
workload-name		string	User visible name of QoS workload.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

qos-workload-delete-iter

[top]

Delete multiple workloads. Only user defined workloads may be deleted.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue deleting the next matching qos-workload even when the deletion of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-workload even when the deletion of a previous matching qos-workload fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of qos-workload objects to delete in this call. Default: 20
query		qos-workload-info	If deleting a specific qos-workload, this input element must specify all keys. If deleting multiple qos-workload objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were not deleted due to some error. If set to false, the list of qos-workload objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were successfully deleted. If set to false, the list of qos-workload objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-workload-delete-iter-info[] optional	Information about qos-workload objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-workload objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-workload objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-workload objects that matched the query and were successfully deleted.
		qos-workload-	The qos-workload objects that were successfully deleted. This

success-list		delete-iter-info[] optional	element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-workload-get

[top]

Get the attributes of a workload.

Input Name	Range	Type	Description
desired-attributes		qos-workload-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
workload-name		string	User visible name of QoS workload.

Output Name	Range	Type	Description
attributes		qos-workload-info	The attributes of the qos-workload.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-workload-get-iter

[top]

Iterate over list of workloads.

Input Name	Range	Type	Description
desired-attributes		qos-workload-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-workload-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-workload object. All qos-workload objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		qos-workload-info[] optional	The list of attributes of qos-workload objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-workload objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-workload-modify

[top]

Modify an existing workload. This may be used to rename the workload, modify the workload's ID, its class, or its category.

Input Name	Range	Type	Description
read-ahead		string optional	Name for a read-ahead tunable policy.
workload-name		string	User visible name of QoS workload.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

qos-workload-modify-iter

[top]

Modify multiple workloads

Input Name	Range	Type	Description
attributes		qos-workload-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue modifying the next matching qos-workload even when modification of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-workload even when the modification of a previous matching qos-workload fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum

			or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		qos-workload-info	If modifying a specific qos-workload, this input element must specify all keys. If modifying qos-workload objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were not modified due to some error. If set to false, the list of qos-workload objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were successfully updated. If set to false, the list of qos-workload objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-workload-modify-iter-info[] optional	Information about qos-workload objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-workload objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-workload objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-workload objects that matched the query and were successfully updated.
success-list		qos-workload-modify-iter-info[] optional	The qos-workload objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-workload-policy-count-get

[top]

Get the cluster-wide QoS policy-group and workload count.

Input Name	Range	Type	Description
desired-attributes		qos-workload-policy-count-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		qos-workload-policy-count-info	The attributes of the qos-workload-policy-count.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cache-class		qos-class optional	Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
cache-policy-name		string optional	Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable
is-default		boolean optional	Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable
is-lopri-data		boolean optional	Cache Lopri Attributes: non-creatable, non-modifiable
is-meta-data		boolean optional	Cache Metadata Attributes: non-creatable, non-modifiable
is-normal-data		boolean optional	Cache Normal Data Blocks Attributes: non-creatable, non-modifiable
is-randomwrite-data		boolean optional	Cache Random Write Blocks Attributes: non-creatable, non-modifiable
is-readahead-data		boolean optional	Cache Readahead Blocks Attributes: non-creatable, non-modifiable

Element definition: **cache-policy-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-cache object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-settings-cache-key		cache-info	The keys for the qos-settings-cache object to which the modify operation applies.

Element definition: **qos-adaptive-policy-group-delete-iter-info**

[top]

Information about the operation that was attempted/performed against qos-adaptive-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-adaptive-policy-group-key		qos-adaptive-policy-group-info	The keys for the qos-adaptive-policy-group object to which the operation applies.

Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable

block-size		qos-block-size optional	Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values: • "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity optional	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values: • "used_space" , • "allocated_space"
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable
peak-iops		qos-tput-capacity optional	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values: • "allocated_space" , • "used_space"
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable
uuid		uuid optional	Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Data Vserver to which the adaptive policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-adaptive-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-adaptive-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-adaptive-policy-group-key		qos-adaptive-policy-group-info	The keys for the qos-adaptive-policy-group object to which the modify operation applies.

Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

Element definition: **qos-peak-iops-allocation** [top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

Element definition: **qos-policy-group-delete-iter-info** [top]

Information about the operation that was attempted/performed against qos-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-policy-group-key		qos-policy-group-info	The keys for the qos-policy-group object to which the operation applies.

Element definition: **qos-policy-group-info** [top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-auto-generated		boolean optional	Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable
is-shared		boolean optional	Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable

max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this policy group. Attributes: non-creatable, non-modifiable
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable
policy-group-class		qos-class optional	Class for the policy group. Attributes: non-creatable, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
uuid		uuid optional	Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.

error-message		string optional	Error description, if the modify operation caused an error.
qos-policy-group-key		qos-policy-group-info	The keys for the qos-policy-group object to which the modify operation applies.

Element definition: **qos-settings-read-ahead-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-settings-read-ahead object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-settings-read-ahead-key		qos-settings-read-ahead-info	The keys for the qos-settings-read-ahead object to which the deletion applies.

Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment Attributes: optional-for-create, modifiable
default		boolean optional	Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable
disk-response-factor	**[1..10]**	integer optional	Disk response time factor Attributes: optional-for-create, modifiable
disk-response-weight	**[0..100]**	integer optional	Weight for disk response time aging (%) Attributes: optional-for-create, modifiable
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable
force-dump		boolean optional	Force DUMP-style readahead Attributes: optional-for-create, modifiable
force-full		boolean optional	Force full-file readahead Attributes: optional-for-create, modifiable
force-none		boolean optional	Disable readahead Attributes: optional-for-create, modifiable
interarrival-		integer	Weight for interarrival time aging (%) Attributes:

weight	**[0..100]**	optional	optional-for-create, modifiable
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate Attributes: optional-for-create, modifiable
max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms) Attributes: optional-for-create, modifiable
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate Attributes: optional-for-create, modifiable
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms) Attributes: optional-for-create, modifiable
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable
min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
overshoot	**[0..500]**	integer optional	Allowable overshoot (%) Attributes: optional-for-create, modifiable
read-ahead-class		qos-class optional	Readahead setting class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
read-ahead-setting-name		string optional	Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling Attributes: optional-for-create, modifiable
use-async		boolean optional	Use asynchronous speculation Attributes: optional-for-create, modifiable
use-feedback		boolean optional	Provide cache-miss feedback Attributes: optional-for-create, modifiable
use-histogram		boolean optional	Use Histogram-based predictions Attributes: optional-for-create, modifiable
use-timing		boolean optional	Use timing algorithms Attributes: optional-for-create, modifiable

Element definition: **qos-settings-read-ahead-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-read-ahead object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-settings-read-ahead-key		qos-settings-read-ahead-info	The keys for the qos-settings-read-ahead object to which the modify operation applies.

Element definition: **qos-tput**

[top]

QoS throughput type

[none]

Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

Element definition: **qos-workload-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-workload object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-workload-key		qos-workload-info	The keys for the qos-workload object to which the deletion applies.

Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
category		string optional	Category used to identify the workload. Attributes: non-creatable, non-modifiable
file		string optional	Name for a file workload. Attributes: optional-for-create, non-modifiable
is-adaptive		boolean optional	Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable
is-constituent		boolean optional	Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable
lun		string optional	Name for a lun workload. Attributes: optional-for-create, non-modifiable
max-throughput		qos-tput optional	Maximum throughput for the workload. Attributes: non-creatable, non-modifiable
min-throughput		qos-tput optional	Minimum throughput for the workload. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name for a QoS policy group. Attributes: non-creatable, non-modifiable
qtree		string optional	Name for a qtree workload. Attributes: optional-for-create, non-modifiable
read-ahead		string optional	Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable
volume		string optional	Name for a volume workload. Attributes: optional-for-create, non-modifiable
vserver		string optional	Name for a vserver workload. Attributes: optional-for-create, non-modifiable
wid	**[0..2^32-1]**	integer optional	Internal identifier for workload. Attributes: non-creatable, non-modifiable
workload-class		qos-class optional	Class for the workload. Attributes: non-creatable, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
workload-name		string optional	User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable
workload-uuid		uuid optional	Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable

Element definition: **qos-workload-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-workload object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-workload-key		qos-workload-info	The keys for the qos-workload object to which the modify operation applies.

Element definition: **qos-workload-policy-count-info**

[top]

Information about QoS policy-groups and workloads. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
max-user-policies	**[0..2^32-1]**	integer optional	Max supported user-defined policy groups Attributes: non-creatable, non-modifiable
max-user-workloads	**[0..2^32-1]**	integer optional	Max supported user-defined workloads Attributes: non-creatable, non-modifiable
total-user-policies	**[0..2^32-1]**	integer optional	Total configured user-defined policy groups Attributes: non-creatable, non-modifiable
total-user-workloads	**[0..2^32-1]**	integer optional	Total configured user-defined workloads Attributes: non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cache-class		qos-class optional	Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
cache-policy-name		string optional	Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable
is-default		boolean optional	Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable
is-lopri-data		boolean optional	Cache Lopri Attributes: non-creatable, non-modifiable
is-meta-data		boolean optional	Cache Metadata Attributes: non-creatable, non-modifiable
is-normal-data		boolean optional	Cache Normal Data Blocks Attributes: non-creatable, non-modifiable
is-randomwrite-data		boolean optional	Cache Random Write Blocks Attributes: non-creatable, non-modifiable
is-readahead-data		boolean optional	Cache Readahead Blocks Attributes: non-creatable, non-modifiable

Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops =

			500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable
block-size		qos-block-size optional	Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values: • "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity optional	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values: • "used_space" , • "allocated_space"
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable
peak-iops		qos-tput-capacity optional	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values: • "allocated_space" , • "used_space"
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable
uuid		uuid optional	Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable
		vserver-	

vserver		name optional	The Data Vserver to which the adaptive policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

Element definition: **qos-peak-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

Element definition: **qos-policy-group-info**

[top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-auto-generated		boolean optional	Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable
is-shared		boolean optional	Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable
max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this policy group. Attributes: non-creatable, non-modifiable
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes:

			key, required-for-create, non-modifiable
policy-group-class		qos-class optional	Class for the policy group. Attributes: non-creatable, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
uuid		uuid optional	Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment Attributes: optional-for-create, modifiable
default		boolean optional	Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable
disk-response-factor	**[1..10]**	integer optional	Disk response time factor Attributes: optional-for-create, modifiable
disk-response-weight	**[0..100]**	integer optional	Weight for disk response time aging (%) Attributes: optional-for-create, modifiable
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable
force-dump		boolean optional	Force DUMP-style readahead Attributes: optional-for-create, modifiable
force-full		boolean optional	Force full-file readahead Attributes: optional-for-create, modifiable
force-none		boolean optional	Disable readahead Attributes: optional-for-create, modifiable
interarrival-weight	**[0..100]**	integer optional	Weight for interarrival time aging (%) Attributes: optional-for-create, modifiable
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate Attributes: optional-for-create, modifiable

max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms) Attributes: optional-for-create, modifiable
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate Attributes: optional-for-create, modifiable
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms) Attributes: optional-for-create, modifiable
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable
min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
overshoot	**[0..500]**	integer optional	Allowable overshoot (%) Attributes: optional-for-create, modifiable
read-ahead-class		qos-class optional	Readahead setting class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
read-ahead-setting-name		string optional	Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling Attributes: optional-for-create, modifiable
use-async		boolean optional	Use asynchronous speculation Attributes: optional-for-create, modifiable
use-feedback		boolean optional	Provide cache-miss feedback Attributes: optional-for-create, modifiable
use-histogram		boolean optional	Use Histogram-based predictions Attributes: optional-for-create, modifiable
use-timing		boolean optional	Use timing algorithms Attributes: optional-for-create, modifiable

Element definition: **qos-tput**

[top]

QoS throughput type

[none]

Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
category		string optional	Category used to identify the workload. Attributes: non-creatable, non-modifiable
file		string optional	Name for a file workload. Attributes: optional-for-create, non-modifiable
is-adaptive		boolean optional	Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable
is-constituent		boolean optional	Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable
lun		string optional	Name for a lun workload. Attributes: optional-for-create, non-modifiable
max-throughput		qos-tput optional	Maximum throughput for the workload. Attributes: non-creatable, non-modifiable
min-throughput		qos-tput optional	Minimum throughput for the workload. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name for a QoS policy group. Attributes: non-creatable, non-modifiable
qtree		string optional	Name for a qtree workload. Attributes: optional-for-create, non-modifiable
read-ahead		string optional	Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable
volume		string optional	Name for a volume workload. Attributes: optional-for-create, non-modifiable
vserver		string optional	Name for a vserver workload. Attributes: optional-for-create, non-modifiable
wid	**[0..2^32-1]**	integer optional	Internal identifier for workload. Attributes: non-creatable, non-modifiable
			Class for the workload. Attributes: non-creatable, non-modifiable

workload-class		qos-class optional	Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
workload-name		string optional	User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable
workload-uuid		uuid optional	Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

Element definition: **qos-tput**

[top]

QoS throughput type

[none]

APIs in Category: **qtree**

qtree-create
qtree-delete
qtree-delete-async
qtree-list-iter
qtree-modify
qtree-rename

Because of possible large amount of information returned by qtree list, it is highly recommended to use the qtree list iterator APIs. There are three iterator APIs for qtree list: -start, -next, and -end.

qtree-create

[top]

Create a new qtree.

Input Name	Range	Type	Description
css-versioning	**[0..2]**	integer optional	Versioning state for CSS bucket on the qtree. Possible values: • 0 - disabled • 1 - enabled • 2 - suspended Default value is 0.
export-policy		string optional	Export policy of the qtree. If this input is not specified, the qtree will inherit the export policy of the parent volume.
mode		string optional	The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. For unclustered volumes, if this argument is missing, use the value specified in the option "wafl.default_qtree_mode". For clustered volumes, if this argument is missing, the permissions of the volume is used.
oplocks		string optional	Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled". Default value is the oplock mode of the volume.
qos-policy-group		string optional	QoS policy group of the qtree.
qtree		string	The path of the qtree, relative to the volume.
security-style		string optional	Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Default value is the security style of the volume.
volume		string	Name of the volume on which to create the qtree

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

EQTREEEXISTS	
EQTREENOTOWNER	
EVOLUMEOFFLINE	
EVOLUMEREADONLY	
EONTAPI_EINVAL	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EQTREEMAX	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-delete

[top]

Delete the specified qtree.

For clustered volumes, all the quota rules that reference this qtree will be automatically deleted.

Input Name	Range	Type	Description
force		boolean optional	Force the deletion of the qtree even if it not empty. On using "force" option, ZAPI may take a long time to complete because the contents of the entire qtree will have to be deleted before it returns. Default: false For clustered volumes, if the qtree has a large number of files, it is recommended that the qtree-delete-async API be used.
qtree		string	Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >.

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EQTREENOTOWNER	
EVOLUMEOFFLINE	
EONTAPI_EINVAL	
EONTAPI_EALREADY	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EONTAPI_ENOTEMPTY	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	

EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-delete-async

[top]

Delete the specified qtree by spawning a background job. The jobid will be returned. The progress of the job can be tracked using the job APIs. All the quota rules that reference this qtree will be automatically deleted.

Input Name	Range	Type	Description
force		boolean optional	Force the deletion of the qtree even if it not empty. Default: false
qtree		string	Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer	The job id of the job that was queued to delete the qtree.
result-status		string	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EONTAPI_EINVAL	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	

EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-list-iter

[top]

Iterate over the list of qtrees in the cluster.

Input Name	Range	Type	Description
desired-attributes		qtree-info optional	Specify the attributes that should be returned in the qtree-info object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.
query		qtree-info optional	A query that specifies which qtrees need to be returned. A query could be specified on any number of attributes in the qtree-info object. All qtree objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		qtree-info[] optional	The list of attributes of qtree objects.
next-tag		string optional	Tag for the next iteration. Not present when there are no more qtree objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

qtree-modify

[top]

Modify the attributes of a qtree. If values are not provided for any of the fields, then that field will not be modified.

Input Name	Range	Type	Description
css-versioning	**[0..2]**	integer optional	Versioning state for CSS bucket on the qtree. Possible values: • 0 - disabled • 1 - enabled • 2 - suspended
export-		string	Export policy of the qtree. If empty string, the qtree will inherit the export

policy		optional	policy of the parent volume.
mode		string optional	The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.
oplocks		string optional	Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled".
qos-policy-group		string optional	QoS policy group of the qtree.
qtree		string	Name of the qtree.
security-style		string optional	Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Changing the security style of a qtree will change the visibility of existing Windows security descriptors (i.e. ACLs). This may affect the disk space usage values in the quota database. Turn quotas off and then on to re-compute disk space usage.
volume		string	Name of the volume containing the qtree to be modified.

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOLUMEREADONLY	
EQTREE_DOES_NOT_EXIST	
EONTAPI_EINVAL	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-rename

[top]

Renames the specified qtree to a new name specified by "new-qtree-name".

For clustered volumes, the qtree name in the quota rules will be automatically updated with the new qtree name.

Input Name	Range	Type	Description
new-qtree-			Path of new qtree. The path should be in this format: /vol/< volume name

name		string	>/< dst qtree name >.
qtree		string	Path of an existing qtree. The path should be in this format: /vol/< volume name >/< src qtree name >.

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EQTREENOTOWNER	
EVOLUMEOFFLINE	
EONTAPI_EEXIST	
EONTAPI_EROFS	
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

Element definition: **qtree-info**

[top]

Information about a single qtree.

Name	Range	Type	Description
css-versioning	**[0..2]**	integer optional	Indicates versioning state for CSS bucket on the qtree. Possible values: • 0 - disabled • 1 - enabled • 2 - suspended
export-policy		string optional	Export policy of the qtree.
id	**[0..4994]**	integer	Id of the qtree (unique within the volume), which is 0 if qtree is the volume itself.
is-export-policy-inherited		boolean optional	If true, this qtree inherits the export policy of the parent volume.
mode		string	The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes.

		optional	The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. This value is applicable and will be returned only if the security style of qtree is "unix" or "mixed".
oplocks		string	Indicates whether opportunistic locks are enabled on the qtree. Possible values: "enabled", "disabled".
qos-policy-group		string optional	QoS policy group of the qtree.
qtree		string	Name of the qtree, blank if qtree is the volume itself
security-style		string	Security style of the qtree. Possible values are "unix", "ntfs", or "mixed".
status		string	Status of the qtree. Possible values include: "normal", or "readonly".
volume		string	Name of the volume containing the qtree
vserver		string optional	The vserver in which the volume belongs

APIs in Category: **quota**

quota-add-entry
quota-delete-entry
quota-get-entry
quota-list-entries-iter
quota-modify-entry
quota-off
quota-on
quota-policy-copy
quota-policy-create
quota-policy-delete
quota-policy-delete-iter
quota-policy-get-iter
quota-policy-rename
quota-policy-rule-count-get
quota-policy-rule-count-get-iter
quota-report-iter
quota-resize
quota-set-entry
quota-status
quota-status-iter

The quota APIs are divided into two groups: management and editing. The management functions are: report, status, turning on, and turning off, while the editing functions are: list, add, delete, modify, and set.

For clustered volumes, the quota rules configured in the quota policies are manipulated by the editing functions; changes to these quota rules in the quota policies will affect the results of the APIs. Multiple quota policies can be defined for each vserver through the CLI. Each vserver can then be assigned a quota policy; the quota rules defined in that quota policy is used for quota on/resize operations for volumes in that vserver.

A quota is uniquely identifed by the type, target, volume, and qtree. There are three types: user, group, and tree. For example: a user quota is specified by type = user, target = zapi, volume = vol0, and qtree = /vol/vol0/lab. A group quota is specified by type = group, target = eng, volume = engvol, and qtree = "". Finally, a qtree quota is specifed by type = tree, target = /vol/engvol/bio, volume = engvol, and qtree = "". Default quotas are specified as an asterisk, "*", for the target. For example, a default user quota is specified by type = user, target = *, volume = vol1, and qtree = /vol/vol1/elvis.

Because of possible large amount of information returned by quota reports and quota lists, it is highly recommended to use the quota report and quota list iterator APIs. For clustered volumes only iterator APIs are available for quota report and quota lists.

quota-add-entry

[top]

Adds a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then an error is returned.

Input Name	Range	Type	Description
disk-limit		string optional	This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited.
file-limit		string optional	This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is unlimited.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false.
policy		string optional	Name of the quota policy in which the quota rule should be added. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field

			must be "".
quota-target		string	This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
soft-disk-limit		string optional	This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited.
soft-file-limit		string optional	This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is unlimited.
threshold		string optional	This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited.
volume		string	This is the volume name that the quota resides on.

Errno	Description
EQUOTAEXISTS	
EQUOTAINVALID	
EQUOTADIRECTIVE	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EQUOTA_POLICY_NOT_FOUND	
EINTERNALERROR	
EVOLUMEREADONLY	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-delete-entry

[top]

Deletes a quota entry specified by type, target, volume, and tree.

Input Name	Range	Type	Description
policy		string optional	Name of the quota policy in which the quota rule should be deleted. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".

volume		string	Name of the volume for the quota.

Errno	Description
EQUOTAINVALID	
EQUOTADIRECTIVE	
EQUOTADOESTEXIST	
EVSERVER_OP_NOT_ALLOWED	

quota-get-entry

[top]

Obtains a quota entry specified by type, target, volume, and tree.

Input Name	Range	Type	Description
policy		string optional	Name of the quota policy from which the quota rule should be obtained. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
volume		string	Name of the volume for the quota.

Output Name	Range	Type	Description
disk-limit		string	The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited.
file-limit		string	The number of files that the target can have. The value is "-" if the limit is unlimited.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user according to the user mapping configured for the vserver to which the volume belongs.
soft-disk-limit		string	The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited.
soft-file-limit		string	The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. The value is "-" if the limit is unlimited.
threshold		string	The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited.

Errno	Description
EQUOTAPARSEERROR	
EQUOTAINVALID	
EQUOTADOESNOTEXIST	
EQUOTADIRECTIVE	
EINTERNALERROR	

quota-list-entries-iter

[top]

Iterate over the list of quota rules in the cluster.

Input Name	Range	Type	Description
desired-attributes		quota-entry optional	Specify the attributes that should be returned in the quota-entry object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.
query		quota-entry optional	A query that specifies which quota rules need to be returned. A query could be specified on any number of attributes in the quota-entry object. All quota entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		quota-entry[] optional	The list of attributes of quota entry objects.
next-tag		string optional	Tag for the next iteration. Not present when there are no more quota entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

quota-modify-entry

[top]

Modifys a quota entry. If the type, target, volume, and tree exist, the entry is modified. If the type, target, volume, and tree do not exist, then an error is returned.

Input Name	Range	Type	Description
disk-limit		string optional	This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value.
file-limit		string optional	This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is the current value.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is the current value.
		string	Name of the quota policy in which the quota rule should be modified. If

policy		optional	this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
soft-disk-limit		string optional	This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value.
soft-file-limit		string optional	This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is the current value.
threshold		string optional	This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value.
volume		string	This is the volume name that the quota resides on.

Errno	Description
EQUOTADOESNOTEXIST	
EQUOTAINVALID	
EQUOTADIRECTIVE	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EQUOTA_POLICY_NOT_FOUND	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	

quota-off

[top]

Turns the quota subsystem off for a volume.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to turn quotas off.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-**	integer	The job id of the job that was queued to turn off quotas.

	1]	optional	
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EAPIERROR	
EVOLUMEMOUNTING	
EVOL_RESTRICTED	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-on

[top]

Starts to turn quotas on for a volume. A successful return from this API does not mean that quotas are on, merely that an attempt to start it has been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to enable quotas.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	error code, if the operation caused an error.
result-error-message		string optional	error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The job id of the job that was queued to turn on quotas.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOL_RESTRICTED	
EVOLUMEOFFLINE	

EAPIERROR	
EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EQUOTAS_NO_VALID_RULES	
EQUOTAS_DEFAULT_RULE_NOT_FOUND	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-policy-copy

[top]

Copy a quota policy

Input Name	Range	Type	Description
new-policy-name		string	New Policy Name
policy-name		string	Policy Name
vserver		string	Vserver

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-create

[top]

Creates a quota policy

Input Name	Range	Type	Description
policy-name		string	Policy Name
vserver		string	Vserver

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-delete

[top]

Deletes a specified quota policy

Input Name	Range	Type	Description
policy-name		string	Policy Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-delete-iter

[top]

Deletes a list of specified quota policies

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple quota-policy objects match a given query. If set to true, the API will continue deleting the next matching quota-policy even when the deletion of a previous quota-policy fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching quota-policy even when the deletion of a previous matching quota-policy fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of quota-policy objects to delete in this call. Default: 20
query		quota-policy-info	If deleting a specific quota-policy, this input element must specify all keys. If deleting multiple quota-policy objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of quota-policy objects (just keys) that were not deleted due to some error. If set to false, the list of quota-policy objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of quota-policy objects (just keys) that were successfully deleted. If set to false, the list of quota-policy objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		quota-policy-delete-iter-	Information about quota-policy objects that were not deleted due to some error. This element will be returned only if input element

		info[] optional	'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching quota-policy objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of quota-policy objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of quota-policy objects that matched the query and were successfully deleted.
success-list		quota-policy-delete-iter-info[] optional	The quota-policy objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

quota-policy-get-iter

[top]

Return a list of quota policies

Input Name	Range	Type	Description
desired-attributes		quota-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		quota-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy object. All quota-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		quota-policy-info[] optional	The list of attributes of quota-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more quota-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

quota-policy-rename

[top]

Rename a quota policy

Input Name	Range	Type	Description
new-policy-name		string	New Policy Name
policy-name		string	Policy Name
vserver		string	Vserver

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-rule-count-get

[top]

Get the attributes of the quota-policy-rule-count.

Input Name	Range	Type	Description
desired-attributes		quota-policy-rule-count-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	Policy Name
qtree		qtree-name	Qtree Name
quota-type		quota-type	Type Possible values: • "tree" , • "user" , • "group"
volume		volume-name	Volume Name

Output Name	Range	Type	Description
attributes		quota-policy-rule-count-info	The attributes of the quota-policy-rule-count.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

quota-policy-rule-count-get-iter

[top]

Iterate over a list of quota-policy-rule-count objects.

Input Name	Range	Type	Description
desired-attributes		quota-policy-rule-count-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		quota-policy-rule-count-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy-rule-count object. All quota-policy-rule-count objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		quota-policy-rule-count-info[] optional	The list of attributes of quota-policy-rule-count objects.
next-tag		string optional	Tag for the next call. Not present when there are no more quota-policy-rule-count objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

quota-report-iter

[top]

Iterate over the quota report in the cluster.

Input Name	Range	Type	Description
desired-attributes		quota optional	Specify the attributes that should be returned in the quota report object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.

path		string optional	A path (including a /vol/ prefix). If specified, the report will contain only quotas that apply to the specified path name.
query		quota optional	A query that specifies which quota report needs to be returned. A query could be specified on any number of attributes in the quota report object. All quota report objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		quota[] optional	The list of attributes of quota report objects.
next-tag		string optional	Tag for the next iteration. Not present when there are no more quota report objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

quota-resize

[top]

Starts an ONTAP operation to resize quotas for a volume. A successful return from this API does not mean that the operation has finished, merely that an attempt to start it been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to resize quotas.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The job id of the job that was queued to resize quotas.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOL_RESTRICTED	
EVOLUMEOFFLINE	
EAPIERROR	

EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EQUOTAS_NO_VALID_RULES	
EQUOTAS_DEFAULT_RULE_NOT_FOUND	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-set-entry

[top]

Sets a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then the entry is modified.

Input Name	Range	Type	Description
disk-limit		string optional	The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited.
file-limit		string optional	The number of files that the target can have. Set the value to "-" if the limit is to be unlimited.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false.
policy		string optional	Name of the quota policy in which the quota rule should be set. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	The quota target of the type specified. Possible values are <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
soft-disk-limit		string optional	The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited.
soft-file-limit		string optional	The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited.
threshold		string optional	The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited.
volume		string	Name of the volume for the quota.

Errno	Description

EQUOTAINVALID	
EQUOTADIRECTIVE	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EQUOTA_POLICY_NOT_FOUND	
EINTERNALERROR	
EVOLUMEREADONLY	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-status

[top]

Obtains the status of quotas

Input Name	Range	Type	Description
volume		string	Name of the volume whose quota status should be obtained.

Output Name	Range	Type	Description
percent-complete		integer optional	The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing".
quota-errors		string optional	Collection of quota errors including the value of the reason tag above. Each error will be separated by a newline, '\n'. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser.
reason		string optional	The last quota error message. If not present, there are no errors.
status		string	Primary status of quotas on the indicated volume; Possible values: • "corrupt" • "initializing" • "mixed" • "off" • "on" • "resizing" • "reverting" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status.
			Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are: • "done" • "etc scanning" • "finishing" • "mixed" • "none"

substatus		string	• "queue scan" • "scanning" • "setup" • "transferring rules" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EVOLUMEOFFLINE	
EAPIERROR	
EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	

quota-status-iter

[top]

Iterate over quota status for all volumes in the cluster

Input Name	Range	Type	Description
desired-attributes		quota-status-attributes optional	Specify the attributes that should be returned in the quota status object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.
query		quota-status-attributes optional	A query that specifies which quota status attributes need to be returned. A query could be specified on any number of attributes in the quota status object. All quota status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		quota-status-attributes[] optional	The list of attributes of quota status objects.

next-tag		string optional	Tag for the next iteration. Not present when there are no more quota status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

Element definition: **qtree-name**

[top]

Qtree Name

[none]

Element definition: **quota**

[top]

Information about a single quota.

Name	Range	Type	Description
disk-limit		string	Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited.
disk-used		string	Current amount of disk space, in kilobytes, used by the quota target.
disk-used-pct-disk-limit	**[0..2^32-1]**	integer optional	Current disk space used expressed as a percentage of hard disk limit.
disk-used-pct-soft-disk-limit	**[0..2^32-1]**	integer optional	Current disk space used expressed as a percentage of soft disk limit.
disk-used-pct-threshold	**[0..2^32-1]**	integer optional	Current disk space used expressed as a percentage of threshold.
file-limit		string	Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited.
files-used		string	Current number of files used by the quota target.
files-used-pct-file-limit	**[0..2^32-1]**	integer optional	Current number of files used expressed as a percentage of hard file limit.
files-used-pct-soft-file-limit	**[0..2^32-1]**	integer optional	Current number of files used expressed as a percentage of soft file limit.
quota-target		string	For an explicit quota, this value is a fully qualified quota target in the quota policy rule. Mulitple targets are comma separated. For a derived quota, the field is blank.
quota-type		string	The type of quota: user, group, or tree.
quota-users		quota-user[] optional	A list of quota users and group.
soft-disk-		string	Soft disk space limit, in kilobytes, for the quota target. The value is

limit			"-" if the limit is unlimited.
soft-file-limit		string	Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited.
threshold		string	Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited.
tree		string	Name of the qtree to which the quota is applied.
volume		string	Name of the volume to which the quota is applied.
vserver		string optional	The vserver name in which the volume belongs, for which the quota is applicable

Element definition: **quota-entry**

[top]

Information about a single quota rule.

Name	Range	Type	Description
disk-limit		string optional	Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited.
file-limit		string optional	Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited.
perform-user-mapping		boolean optional	If the value is true, user mapping will be performed for this rule.
policy		string optional	The quota policy to which the rule belongs.
qtree		string optional	Name of the qtree for the quota. It can be the qtree name or "" if no qtree. If there is an error in the quota entry, this value might not present. For tree rules, this field will be "".
quota-target		string optional	The quota target of the type specified. The value will be one of: <name>, <number>, or <path name>. Mulitple targets can be specified by a comma-separated list. Quota directives in quota policy rules are used to form the quota target. If there is an error in the quota entry, this value might not present. For explicit tree rules, this field will indicate the qtree name in the format "/vol/< volume name >/ < qtree name >".
quota-type		string optional	The type of quota rule. Possible values are "user", "group", or "tree". If there is an error in the quota entry, this value might not present.
soft-disk-limit		string optional	Soft disk space limit, in kilobytes, for the quota target. The value is "-" if the limit is unlimited.
soft-file-limit		string optional	Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited.
threshold		string optional	Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited.
volume		string optional	Name of the volume for the quota. If there is an error in the quota entry, this value might not present.
vserver		string optional	The vserver name.

Element definition: **quota-policy-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against quota-policy object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
quota-policy-key		quota-policy-info	The keys for the quota-policy object to which the deletion applies.

Element definition: **quota-policy-info**

[top]

Info about a quota policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
last-modified		datetime optional	Last Modified Attributes: non-creatable, non-modifiable
policy-name		string optional	Policy Name Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **quota-policy-rule-count-info**

[top]

Quota policy rule count(s) When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
count-where-policy	**[0..2^32-1]**	integer optional	Total rule count matching the given Vserver and quota policy. All volumes, qtrees, and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
			Subtotal of rules matching the given Vserver, quota policy, and

count-where-policy-volume	**[0..2^32-1]**	integer optional	volume. All qtrees and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
count-where-policy-volume-qtree	**[0..2^32-1]**	integer optional	Subtotal of rules matching the given Vserver, quota policy, volume, and qtree. All quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
count-where-policy-volume-qtree-type	**[0..2^32-1]**	integer optional	Subtotal of rules matching the given Vserver, quota policy, volume, qtree, and quota rule type. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
count-where-policy-volume-type	**[0..2^32-1]**	integer optional	Subtotal of rules matching the given Vserver, quota policy, volume, and quota rule type. All qtrees are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
policy		string optional	Policy Name Attributes: key, non-creatable, non-modifiable
qtree		qtree-name optional	Qtree Name Attributes: key, non-creatable, non-modifiable
quota-type		quota-type optional	Type Attributes: key, non-creatable, non-modifiable Possible values: • "tree" , • "user" , • "group"
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **quota-status-attributes**

[top]

Attributes of quota status

Name	Range	Type	Description
percent-complete		integer optional	The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing".
quota-error-msgs		quota-error-msg[] optional	Collection of quota errors including the value of the reason tag above. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser.
reason		quota-error-msg optional	The last quota error message. If not present, there are no errors.
			Primary status of quotas on the indicated volume; Possible values: • "corrupt" • "initializing"

status		string	"mixed" • "off" • "on" • "resizing" • "reverting" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status.
substatus		string	Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are: • "done" • "etc_scanning" • "finishing" • "mixed" • "none" • "queue_scan" • "scanning" • "setup" • "transferring_rules" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus.
volume		string	Name of the volume to which the quota is applied.
vserver		string	The vserver name in which the volume belongs, for which the quota is applicable

Element definition: **quota-type**

[top]

tree|user|group Possible values:

- "tree" ,
- "user" ,
- "group"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that

follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **qtree-name**

[top]

Qtree Name

[none]

Element definition: **quota-error-msg**

[top]

Information about the single quota error.

[none]

Element definition: **quota-user**

[top]

Information about a quota user or group.

Name	Range	Type	Description
quota-user-id		string	The id of the user. The quota-user-type determines the format. For uid and gid, the format is an integer. For sid, the format is the usual "S-*" style.
quota-user-name		string	Name of the user, group, or sid.
quota-user-type		string	The type of quota user. There are two possible values: sid (for Windows users), uid (for UNIX users), and gid (for UNIX groups).

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **secd**

secd-auth-get-claim-name
secd-auth-get-dc-info
secd-auth-show-ontap-admin-unix-creds-using-uid
secd-auth-show-ontap-admin-unix-creds-using-unix-user-name
secd-auth-sid-to-uid
secd-auth-sid-to-unix-user-name
secd-auth-translate-gid-to-groupname
secd-auth-translate-sid-to-win-user-name
secd-auth-translate-uid-to-username
secd-auth-translate-unix-group-name-to-gid
secd-auth-translate-unix-user-name-to-uid
secd-auth-translate-windows-user-name-to-sid
secd-auth-uid-to-sid
secd-connection-timeout-get
secd-connection-timeout-get-iter
secd-connection-timeout-modify
secd-dns-forward-lookup
secd-dns-srv-lookup
secd-name-mapping-show
secd-server-discovery-host
secd-server-discovery-reset
secd-server-discovery-site
secd-server-discovery-test

These APIs allow management of Access-check information per user

secd-auth-get-claim-name

[top]

Get Claim-Name from Claim-cn

Input Name	Range	Type	Description
claim-cn		string	The common name of claim used for getting claim name
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
claim-name		string	The claim name corresponding to the input claim CN

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-get-dc-info

[top]

Get the Active DC informartion give vfiler

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
client-site		string	The client site corresponding to the domain controller
domain-name		string	The domain name corresponding to the domain controller
flags	**[0..2^32-1]**	integer	flags correspondiing to the domain controller
forest-name		string	The forest name corresponding to the domain controller
guid		string	128 bit global unique identifier corresponding to the domain controller
netbios-hostname		string	The NetBIOS hostname corresponding to the domain controller
netbios-name		string	The NetBIOS name corresponding to the domain controller
server-site		string	The server site corresponding to the domain controller

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-show-ontap-admin-unix-creds-using-uid

[top]

Get UNIX credentials from UNIX user ID

Input Name	Range	Type	Description

node		string optional	The node on which command will be run
uid	**[0..2^32-1]**	integer	The UNIX user ID passed to get the UNIX credentials
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID corresponding to UNIX credentials
unix-login-shell		string	The UNIX login shell corresponding to the UNIX credentials
unix-user-name		string	The UNIX username passed to get the UNIX credentials

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-show-ontap-admin-unix-creds-using-unix-user-name

[top]

Get UNIX credentials from UNIX User Name

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
unix-user-name		string	The UNIX username passed to get the UNIX credentials
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID corresponding to UNIX credentials
uid	**[0..2^32-1]**	integer	The UNIX user ID passed to get the UNIX credentials
unix-login-shell		string	The UNIX login shell corresponding to the UNIX credentials

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-sid-to-uid

[top]

Get UNIX user ID from Windows SID

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
sid		string	The Windows SID to be looked up for its corresponding user ID
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
uid	**[0..2^32-1]**	integer	The UNIX user ID corresponding to the input SID

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-sid-to-unix-user-name

[top]

Get UNIX User Name from Windows SID

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
sid		string	The Windows SID to be looked up for its corresponding User Name
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
unix-user-name		string	The UNIX User Name corresponding to the input SID

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-gid-to-groupname

[top]

Translate Group ID to UNIX Group Name

Input Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID which needs to be translated
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
unix-group-name		string	The UNIX Group Name which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-sid-to-win-user-name

[top]

Translate SID to Windows User Name

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
sid		string	The Windows SID which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
win-name		string	The Windows Name which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-uid-to-username

[top]

Translate user ID to UNIX User Name

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
uid	**[0..2^32-1]**	integer	The UNIX user ID which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
unix-user-name		string	The UNIX User Name which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-unix-group-name-to-gid

[top]

Translate UNIX Group Name to Group ID

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
unix-group-name		string	The UNIX Group Name which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID which needs to be translated

Errno	Description
EINTERNALERROR	

Errno	Description
EOBJECTNOTFOUND	

secd-auth-translate-unix-user-name-to-uid

[top]

Translate UNIX User Name to user ID

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
unix-user-name		string	The UNIX User Name which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
uid	**[0..2^32-1]**	integer	The UNIX user ID which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-windows-user-name-to-sid

[top]

Translate Windows User Name to SID

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run
win-name		string	The Windows Name which needs to be translated

Output Name	Range	Type	Description
sid		string	The Windows SID which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-uid-to-sid

[top]

Get Windows SID from UNIX user ID

Input Name	Range	Type	Description
node		string optional	The node on which command will be run

uid	**[0..2^32-1]**	integer	The UNIX user ID to be looked up for its corresponding Windows SID
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
sid		string	The Windows SID corresponding to the input user ID

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-connection-timeout-get

[top]

Get the SecD connection timeout value for a Vserver

Input Name	Range	Type	Description
desired-attributes		secd-connection-timeout-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		secd-connection-timeout-info	The attributes of the secd.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

secd-connection-timeout-get-iter

[top]

Iterate through the SecD connection timeout values of the cluster

Input Name	Range	Type	Description
desired-attributes		secd-connection-timeout-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		secd-connection-timeout-	A query that specifies which objects to return. A query could be specified on any number of attributes in the secd object. All secd

		info optional	objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		secd-connection-timeout-info[] optional	The list of attributes of secd objects.
next-tag		string optional	Tag for the next call. Not present when there are no more secd objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

secd-connection-timeout-modify

[top]

Modify the SecD connection timeout value for a Vserver

Input Name	Range	Type	Description
connection-timeout	**[2..10]**	integer optional	Secd connection timeout in seconds

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

secd-dns-forward-lookup

[top]

DNS Forward Lookup for a Hostname

Input Name	Range	Type	Description
hostname		string	The hostname for which the lookup has to be done
lookup-type		string optional	The lookup type for the hostname passed
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description

ip-address		string	Ip address of the hostname passed

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-dns-srv-lookup

[top]

DNS Lookup for SRV records

Input Name	Range	Type	Description
lookup-string		string	The lookup string used to lookup the domain's authoritative name server
lookup-type		string optional	The lookup type for the domain's authoritative name server
name-servers		string[] optional	The name servers populated in the output
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
ip-address		string	IP Address result of SRV Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-name-mapping-show

[top]

Get Name Mappings configured for particular direction

Input Name	Range	Type	Description
direction		string	The direction for which the name mapping will be run
name		string	Username for which the Name Mapping will be run
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
result		string	Mapping for the given username

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-host

[top]

Host Information of the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run

Output Name	Range	Type	Description
ad-domain		string[]	The AD domain Name of the discovered server
cifs-domain		string[]	The CIFS domain Name of the discovered server
host-name		string[]	The host name of the discovered server
ip-address		string[]	IP address of the discovered server

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-reset

[top]

Reset the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
result		string	Result of the server discovery reset

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-site

[top]

Site of the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
site		string	Site information of the discovered server

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-test

[top]

Test the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
result		string	Server discovery result of the test

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

Element definition: **secd-connection-timeout-info**

[top]

SecD Connection Timeout When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-timeout	**[2..10]**	integer optional	Secd connection timeout in seconds Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **sectrace**

sectrace-find-or-create-filter
security-trace-filter-create
security-trace-filter-delete
security-trace-filter-get-iter
security-trace-filter-modify
security-trace-result-delete
security-trace-result-show

This set of ZAPIs allow setting up and managing permission check filters and logs. Permission tracing allows users to trace permission checks that are done during multiprotocol security access. These set of ZAPIs provide an interface to create, delete and modify security tracing filters. They also allow viewing and deleting of trace records that are generated as a result of the trace filters.

sectrace-find-or-create-filter

[top]

Input Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client.
name		string optional	Windows or Unix User Name to trace.
path		string optional	Path to match.
protocol		sectrace-protocol optional	The protocol for which the permission tracing is applicable.
trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well.

Output Name	Range	Type	Description
index	**[0..2^32-1]**	integer	Index for output

Errno	Description
E_CIFS_ERROR_SECURITY_TRACE_ENTRIES_OUT_OF_RANGE	
E_NFS_UI_SECURITY_TRACE_FLEXGROUP_ERROR	

security-trace-filter-create

[top]

Creates a new Security trace entry.

Input Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client.
enabled		enable optional	This is used to enable or disable the filter.
index	**[0..2^32-1]**	integer	internally created index for the filter.
path		string optional	Path to match.
protocols		sectrace-protocol[] optional	The protocols for which the permission tracing is applicable. Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
return-record		boolean optional	If set to true, returns the security-trace-filter on successful creation. Default: false
time-enabled	**[1..720]**	integer optional	The admin can specify a timeout for this filter after which it would be disabled.
trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well.
unix-name		string optional	UNIX user name or user ID to trace.
windows-name		string optional	Windows User Name to trace.

Output Name	Range	Type	Description
result		security-trace-filter-attributes optional	The security-trace-filter created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-trace-filter-delete

[top]

Deletes the specified Security trace entry.

Input Name	Range	Type	Description
index	**[0..2^32-1]**	integer	internally created index for the filter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-trace-filter-get-iter

[top]

Gives information about one or more Security trace entries.

Input Name	Range	Type	Description
desired-attributes		security-trace-filter-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-trace-filter-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-filter object. All security-trace-filter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-trace-filter-attributes[] optional	The list of attributes of security-trace-filter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-trace-filter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-trace-filter-modify

[top]

Modifies settings of a Security trace entry, even if it is in use.

Input Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client.
enabled		enable optional	This is used to enable or disable the filter.
index	**[0..2^32-1]**	integer	internally created index for the filter.
path		string optional	Path to match.
protocols		sectrace-protocol[] optional	The protocols for which the permission tracing is applicable. Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
time-enabled	**[1..720]**	integer optional	The admin can specify a timeout for this filter after which it would be disabled.

trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well.
unix-name		string optional	UNIX user name or user ID to trace.
windows-name		string optional	Windows User Name to trace.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-trace-result-delete

[top]

Delete the specified security tracing event record.

Input Name	Range	Type	Description
node		node-name	The cluster node on which the permission tracing event occured.
seqnum	**[0..2^64-1]**	integer	The sequence number of the permission tracing event.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-trace-result-show

[top]

Retrieve the list of permission tracing results for the cluster.

Input Name	Range	Type	Description
desired-attributes		security-trace-results-logs optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-trace-results-logs optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-result object. All security-trace-result objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		security-trace-results-logs[] optional	The list of attributes of security-trace-result objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-trace-result objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **sectrace-protocol**

[top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

Element definition: **security-trace-filter-attributes**

[top]

Security trace configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client. Attributes: optional-for-create, modifiable
enabled		enable optional	This is used to enable or disable the filter. Attributes: optional-for-create, modifiable
index	**[0..2^32-1]**	integer optional	internally created index for the filter. Attributes: key, required-for-create, non-modifiable
path		string optional	Path to match. Attributes: optional-for-create, modifiable
protocols		sectrace-protocol[] optional	The protocols for which the permission tracing is applicable. Attributes: optional-for-create, modifiable Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
time-enabled	**[1..720]**	integer optional	The admin can specify a timeout for this filter after which it would be disabled. Attributes: optional-for-create, modifiable
trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well. Attributes: optional-for-create, modifiable
unix-name		string optional	UNIX user name or user ID to trace. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	Vserver on which the permission tracing is applied. Attributes: key, non-creatable, non-modifiable
windows-name		string optional	Windows User Name to trace. Attributes: optional-for-create, modifiable

Element definition: **security-trace-results-logs**

[top]

List of security tracing results. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client that triggered the permission tracing event. Attributes: required-for-create, non-modifiable
index	**[0..2^32-1]**	integer optional	The index of the filter corresponding to the permission tracing event. Attributes: required-for-create, non-modifiable
keytime		date optional	The date and time of day when the persmission tracing event occured. Attributes: required-for-create, non-modifiable
node		node-name optional	The cluster node on which the permission tracing event occured. Attributes: key, required-for-create, non-modifiable
path		string optional	The path of the file whose access triggered the permission tracing event. Attributes: required-for-create, non-modifiable
protocol		sectrace-protocol optional	Protocol for which the permission tracing is configured. Attributes: required-for-create, non-modifiable Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
result		string optional	A brief explanation of the result of the security check. Attributes: required-for-create, non-modifiable
security-style		security-style optional	The security style of the file system where the persmission tracing event occured. Attributes: required-for-create, non-modifiable Possible values: • "security_none" - Security not Set, • "security_unix_modebits" - UNIX and UNIX permissions, • "security_unix_acl" - UNIX and NFSv4 ACL, • "security_unix_sd" - UNIX and NT ACL, • "security_mixed_modebits" - MIXED and UNIX permissions, • "security_mixed_acl" - MIXED and NFSv4 ACL, • "security_mixed_sd" - MIXED and NT ACL, • "security_ntfs_modebits" - NTFS and UNIX permissions, • "security_ntfs_acl" - NTFS and NT ACL, • "security_ntfs_sd" - NTFS and NT ACL, • "security_unix" - UNIX, • "security_mixed" - MIXED, • "security_ntfs" - NTFS, • "security_modebits" - UNIX permissions, • "security_acl" - ACL, • "security_sd" - SD
seqnum	**[0..2^64-1]**	integer optional	The sequence number of the permission tracing event. Attributes: key, required-for-create, non-modifiable
session-id	**[0..2^64-1]**	integer optional	The unique identifier for the CIFS session. Attributes: required-for-create, non-modifiable
share-name		string optional	CIFS Share name which has been accessed. Attributes: required-for-create, non-modifiable
unix-user		string optional	Mapped UNIX User who triggered the permission tracing event. Attributes: required-for-create, non-modifiable
user-name		string optional	Windows User who triggered the permission tracing event. Attributes: optional-for-create, non-modifiable
volume-name		string optional	Name of the volume that has been accessed. Attributes: required-for-create, non-modifiable
vserver		vserver-name	The Vserver on which the permission tracing event occured. Attributes:

		optional	key, non-creatable, non-modifiable

Element definition: **date** [top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **sectrace-protocol** [top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

Element definition: **security-style** [top]

Effective security style on file Possible values:

- "security_none" - Security not Set,
- "security_unix_modebits" - UNIX and UNIX permissions,
- "security_unix_acl" - UNIX and NFSv4 ACL,
- "security_unix_sd" - UNIX and NT ACL,
- "security_mixed_modebits" - MIXED and UNIX permissions,
- "security_mixed_acl" - MIXED and NFSv4 ACL,
- "security_mixed_sd" - MIXED and NT ACL,
- "security_ntfs_modebits" - NTFS and UNIX permissions,
- "security_ntfs_acl" - NTFS and NT ACL,
- "security_ntfs_sd" - NTFS and NT ACL,
- "security_unix" - UNIX,
- "security_mixed" - MIXED,
- "security_ntfs" - NTFS,
- "security_modebits" - UNIX permissions,
- "security_acl" - ACL,
- "security_sd" - SD

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **security**

security-config-get
security-config-modify
security-config-ocsp-disable
security-config-ocsp-enable
security-config-ocsp-get-iter
security-last-login-info
security-login-create
security-login-delete
security-login-delete-iter
security-login-expire-password
security-login-expire-password-iter
security-login-get
security-login-get-iter
security-login-lock
security-login-modify
security-login-modify-iter
security-login-modify-password
security-login-role-config-get
security-login-role-config-get-iter
security-login-role-config-modify
security-login-role-config-modify-iter
security-login-role-create
security-login-role-delete
security-login-role-delete-iter
security-login-role-get
security-login-role-get-iter
security-login-role-modify
security-login-role-modify-iter
security-login-unlock
security-login-whoami
security-protocol-get
security-protocol-modify
security-protocol-ssh-get
security-protocol-ssh-modify
security-saml-sp-create-async
security-saml-sp-destroy
security-saml-sp-get
security-saml-sp-modify
security-ssh-add
security-ssh-get-iter
security-ssh-remove
security-ssh-reset

This set of ZAPIs allow to manage security of the system.

security-config-get

[top]

Display Cluster Security Configuration

Input Name	Range	Type	Description
desired-attributes		security-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface		fips-interfaces	Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values: • "ssl"

Output Name	Range	Type	Description
attributes		security-config-info	The attributes of the security.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-config-modify

[top]

Modify Cluster Security Configuration

Input Name	Range	Type	Description
interface		fips-interfaces	Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values: • "ssl"
is-fips-enabled		boolean optional	Data ONTAP FIPS Mode.
supported-cipher-suites		string[] optional	Data ONTAP Supported Cipher Suites.
supported-ciphers		string optional	Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release.
supported-protocols		string[] optional	Data ONTAP Supported Protocols.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-config-ocsp-disable

[top]

Disable OCSP for one or more selected applications

Input Name	Range	Type	Description
application		string[]	Application Name Possible values: • 'autosupport' - AutoSupport, • 'audit_log' - Audit-Logging, • 'fabricpool' - FabricPool, • 'ems' - EMS, • 'kmip' - KMIP, • 'ldap_ad' - LDAP-AD, • 'ldap_nis_namemap' - LDAP-NIS-NameMap, • 'ssh' - SSH, • 'all' - All Applications

Errno	Description
E_SECURITY_CONFIG_ALL_CANNOT_COEXIST	

security-config-ocsp-enable

[top]

Enable OCSP for one or more selected applications

Input Name	Range	Type	Description
application		string[]	Application Name Possible values: • 'autosupport' - AutoSupport, • 'audit_log' - Audit-Logging, • 'fabricpool' - FabricPool, • 'ems' - EMS, • 'kmip' - KMIP, • 'ldap_ad' - LDAP-AD, • 'ldap_nis_namemap' - LDAP-NIS-NameMap, • 'ssh' - SSH, • 'all' - All Applications

Errno	Description
E_SECURITY_CONFIG_ALL_CANNOT_COEXIST	

security-config-ocsp-get-iter

[top]

Display OCSP Support Status for Applications

Input Name	Range	Type	Description
desired-attributes		security-config-ocsp optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-config-	A query that specifies which objects to return. A query could be specified on any number of attributes in the security object. All security objects matching

		ocsp optional	this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-config-ocsp[] optional	The list of attributes of security objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-last-login-info

[top]

Show the last login time, unsuccessful login attempts and role change since last login.

Input Name	Range	Type	Description
username		string	Name of user or group.
vserver		string	Name of vserver.

Output Name	Range	Type	Description
last-login-time		date optional	last successful login time
last-role-change		true-false optional	Role change since last login
last-unsuccessful-attempts		integer optional	Unsuccessful login attempts

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-login-create

[top]

Create a new user account associated with the specified application and authentication method. The new account can be local to ONTAP or an user/group configured in an external Active-Directory/LDAP/NIS server. In case of Active-Directory/LDAP/NIS group as the user account, access will be granted to its member users.

Input Name	Range	Type	Description
			Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi'

application		string	• 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
authentication-method		string	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters.
is-ldap-fastbind		boolean optional	Whether the Authentication is LDAP Fastbind or not.
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not.
is-password-hashed		boolean optional	This optionally specifies whether password entered by user is pre-hashed. This is ignored for creating snmp users. This is required for creating non-snmp users.
password		string optional	Password for the user account. This field is not required (and will be ignored if present) when creating a user for the SNMP application. It is required for all other applications.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
role-name		string optional	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver.
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'.
snmpv3-login-info		snmpv3-login-info optional	SNMPv3 user login information for 'usm' authentication method
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDUSERNAME	
EINVALIDAPPLICATION	
EINVALIDAUTHENTICATIONMETHOD	
EROLENOTFOUND	
EINVALID_ENGINE_ID	
E_INVALID_AUTHENTICATION_PROTOCOL	
E_INVALID_PRIVACY_PROTOCOL	
E_RSH_USER_CREATION_NOT_SUPPORTED	
E_TELNET_USER_CREATION_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDPASSWORD	
EINVALIDACCESS	
EASUPUSEROPERATIONFAILED	
E_COMMUNITY_CREATE_FAILED	
E_FAILED_TO_CREATE_SNMPV3_USER	
E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_SSH	
E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_FIRST_METHOD_PWD_PUB_NSSWITCH	
E_SECOND_AUTH_METHOD_SHOULD_BE_DIFF_FIRST_METHOD	
E_AUTH_METHOD_ALREADY_EXISTS_COMPLEMENTARY_PAIR	
E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY	
E_RBAC_FAILED_TO_DISCOVER_SNMPV3_ENGINEID	
E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_ADMIN_VSERVER	
E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_SNMPV3_USER	
E_RBAC_ALL_ZEROS_REMOTEIP	
E_RBAC_ENGINEID_ASSOCIATED_WITH_EXISTING_USERNAME	
E_SNMPV3_CLIENT_UNAVAILABLE	

security-login-delete

[top]

Delete an existing user account object.

Input Name	Range	Type	Description
application		string	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
			Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:

authentication-method		string	• 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EAPPLICATIONNOTFOUND	
EAUTHENTICATIONMETHODNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDACCESS	
EASUPUSEROPERATIONFAILED	

security-login-delete-iter

[top]

Delete an existing user account or a group of user account objects.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue deleting the next matching security login account even when the deletion of a previous security login account fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login account even when the deletion of a previous matching security login account fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-**	integer	The maximum number of security login account objects to delete in this call.

	1]	optional	Default: 20
query		security-login-account-info	If deleting a specific security login account, this input element must specify all keys. If deleting multiple security login account objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were not deleted due to some error. If set to false, the list of security login account objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were successfully deleted. If set to false, the list of security login account objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-delete-iter-info[] optional	Information about security login account objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login account objects to be deleted.
num-failed	[0..2^32-1]	integer optional	Number of security login account objects that matched the query, but were not deleted due to some error.
num-succeeded	[0..2^32-1]	integer optional	The number of security login account objects that matched the query and were successfully deleted.
success-list		security-login-delete-iter-info[] optional	The security login account objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-expire-password

[top]

If the user has a password enabled, this API will cause it to immediately expire. Current login sessions will still remain available.

Input Name	Range	Type	Description
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. Possible values: • sha512 • sha256 • md5
user-name		string	Name of the user whose password need to be expired.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	

security-login-expire-password-iter

[top]

Iterate over a list of user account that uses password as authentication method to immedialtely expire their passwords. Current login sessions will still remain available.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security objects match a given query. If set to true, the API will continue with the next matching security even when the operation fails for the security. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security even when the operation on a previous matching security fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security objects to be operated in this call. Default: 20
query		security-login-password-user-info	If operating on a specific security, this input element must specify all keys. If operating on security objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security objects (just keys) that were not operated on due to some error. If set to false, the list of security objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security objects (just keys) that were successfully operated on. If set to false, the list of security objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-expire-password-iter-info[] optional	Information about security objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of security objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security objects that matched the query and were successfully processed.
success-list		security-login-expire-password-iter-info[] optional	The security objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

security-login-get

[top]

Get the attributes of a user account.

Input Name	Range	Type	Description
application		string	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
authentication-method		string	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
desired-attributes		security-login-account-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
		security-login-	

attributes		account-info	The attributes of the security login account.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EAPPLICATIONNOTFOUND	
EAUTHENTICATIONMETHODNOTFOUND	

security-login-get-iter

[top]

Iterate over a list of user account objects.

Input Name	Range	Type	Description
desired-attributes		security-login-account-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-login-account-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login account object. All security login account objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-login-account-info[] optional	The list of attributes of security login account objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login account objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-login-lock

[top]

Lock a user account that uses password as the authentication method. Returns an error if the user account does not use password authentication.

Input Name	Range	Type	Description
user-name		string	Name of the user account to be locked.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EUSERLOCKFAILED	
E_LOCK_NOT_SUPPORTED	
EINVALIDACCESS	

security-login-modify

[top]

Modify the attributes of a user account object. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
application		string	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
authentication-method		string	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters.
is-ldap-fastbind		boolean optional	Whether the Authentication is LDAP Fastbind or not.
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is

			a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
role-name		string	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver.
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'.
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EAPPLICATIONNOTFOUND	
EAUTHENTICATIONMETHODNOTFOUND	
EROLENOTFOUND	
E_NO_PASSWORD	
E_INVALID_AUTHENTICATION_PROTOCOL	
E_INVALID_PRIVACY_PROTOCOL	
E_NO_AUTHENTICATION_PASSWORD	
E_NO_PRIVACY_PASSWORD	
E_INVALID_AUTHENTICATION_PASSWORD	
E_INVALID_PRIVACY_PASSWORD	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDACCESS	
EASUPUSEROPERATIONFAILED	
E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY	
E_TWO_DIFFERENT_PROFILES	

security-login-modify-iter

[top]

Modify the attributes of a user account or a group of user account objects.

Input Name	Range	Type	Description
attributes		security-login-account-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue modifying the next matching security login account even when modification of a previous security login account fails. If set to false, the API will return on the first

			failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login account even when the modification of a previous matching security login account fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		security-login-account-info	If modifying a specific security login account, this input element must specify all keys. If modifying security login account objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were not modified due to some error. If set to false, the list of security login account objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were successfully updated. If set to false, the list of security login account objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-modify-iter-info[] optional	Information about security login account objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login account objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of security login account objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login account objects that matched the query and were successfully updated.
success-list		security-login-modify-iter-info[] optional	The security login account objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-modify-password

[top]

Changes the password of a specified user.

Input Name	Range	Type	Description
is-password-hashed		boolean optional	This optionally specifies whether password entered by user is pre-hashed.

new-password		string	New password of the user.
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: • sha512 • sha256
user-name		string optional	The user whose password should be changed. This is mandatory when a user with admin role is modifying the password of another user.

Errno	Description
EINTERNALERROR	
EINVALIDPASSWORD	
EONTAPI_EPERM	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-config-get

[top]

Get the attributes of a role configuration.

Input Name	Range	Type	Description
desired-attributes		security-login-role-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
attributes		security-login-role-config-info	The attributes of the security login roleconfig.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EROLENOTFOUND	
EROLECONFIGNOTFOUND	

security-login-role-config-get-iter

[top]

Iterate over a list of role objects.

Input Name	Range	Type	Description
desired-attributes		security-login-role-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-login-role-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login roleconfig object. All security login roleconfig objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-login-role-config-info[] optional	The list of attributes of security login roleconfig objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login roleconfig objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-login-role-config-modify

[top]

Modify the specified attributes of role configuration object. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
account-expiry-time		string optional	This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration.
account-inactive-limit		string optional	This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity.
change-password-duration-in-days	**[0..1000]**	integer optional	This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately.
delay-after-failed-login	**[1..60]**	integer optional	This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs.
last-passwords-disallowed-count	**[1..25]**	integer optional	This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6.
lockout-duration	**[0..2^32-1]**	integer optional	This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0.
max-failed-login-attempts	**[0..2^32-1]**	integer optional	This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0.
min-passwd-specialchar	**[0..64]**	integer optional	This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0.
min-password-size	**[3..64]**	integer optional	This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters.
min-username-		integer	The minimum length of the user name. Possible values range from 3 to 16

size	**[3..16]**	optional	characters. The default setting is 3 characters.
passwd-expiry-warn-time		string optional	If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1.
passwd-min-digits	**[0..64]**	integer optional	This optionally specifies the minimum number of digits required in the password. The default setting is 0.
passwd-min-lowercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0.
passwd-min-uppercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0.
password-expiration-duration		string optional	This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire).
require-initial-password-update		boolean optional	This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false.
require-password-alpha-numeric		boolean optional	If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character.
require-username-alpha-numeric		boolean optional	If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EROLENOTFOUND	
EROLECONFIGNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-config-modify-iter

[top]

Modify the attributes of role configuration or a group of role configuration objects.

Input Name	Range	Type	Description
attributes		security-login-role-config-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple security login roleconfig objects match a given query. If set to true, the API will continue modifying the next matching security login roleconfig even when modification of a previous security login roleconfig fails. If set to false, the API will return on the first failure. Default: false
max-failure-	**[1..2^32-**	integer	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login roleconfig even when the modification of a

count	**1]**	optional	previous matching security login roleconfig fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		security-login-role-config-info	If modifying a specific security login roleconfig, this input element must specify all keys. If modifying security login roleconfig objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login roleconfig objects (just keys) that were not modified due to some error. If set to false, the list of security login roleconfig objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login roleconfig objects (just keys) that were successfully updated. If set to false, the list of security login roleconfig objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-role-config-modify-iter-info[] optional	Information about security login roleconfig objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login roleconfig objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of security login roleconfig objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login roleconfig objects that matched the query and were successfully updated.
success-list		security-login-role-config-modify-iter-info[] optional	The security login roleconfig objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-role-create

[top]

Create a new user role.

Input Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'.

command-directory-name		string	The command or command directory to which the role has an access.
return-record		boolean optional	If set to true, returns the security login role on successful creation. Default: false
role-name		string	Name of the role.
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
result		security-login-role-info optional	The security login role created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDROLENAME	
EINVALIDCMDDIRNAME	
EINVALIDACCESS	
EINVALIDQUERY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-delete

[top]

Delete an existing user role object.

Input Name	Range	Type	Description
command-directory-name		string	The command or command directory to which the role has an access.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EROLENOTFOUND	
EVSERVERNOTFOUND	
ECMDDIRNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-delete-iter

[top]

Delete an existing user role or a group of user role objects.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue deleting the next matching security login role even when the deletion of a previous security login role fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login role even when the deletion of a previous matching security login role fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security login role objects to delete in this call. Default: 20
query		security-login-role-info	If deleting a specific security login role, this input element must specify all keys. If deleting multiple security login role objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were not deleted due to some error. If set to false, the list of security login role objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were successfully deleted. If set to false, the list of security login role objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-role-delete-iter-info[] optional	Information about security login role objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login role objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of security login role objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login role objects that matched the query and were successfully deleted.
success-list		security-login-role-delete-iter-info[] optional	The security login role objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-role-get

[top]

Get the attributes of a user role.

Input Name	Range	Type	Description
command-directory-name		string	The command or command directory to which the role has an access.
desired-attributes		security-login-role-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
attributes		security-login-role-info	The attributes of the security login role.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EROLENOTFOUND	
EVSERVERNOTFOUND	
ECMDDIRNOTFOUND	

security-login-role-get-iter

[top]

Iterate over a list of user role objects.

Input Name	Range	Type	Description
desired-attributes		security-login-role-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-login-role-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role object. All security login role objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-login-role-info[] optional	The list of attributes of security login role objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login role objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description

Errno	Description
EINTERNALERROR	

security-login-role-modify

[top]

Modify the attributes of user role object. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'.
command-directory-name		string	The command or command directory to which the role has an access.
role-name		string	Name of the role.
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDROLENAME	
EINVALIDCMDDIRNAME	
EINVALIDACCESS	
EINVALIDACCESSLEVEL	
EINVALIDQUERY	
EINVALIDROLEQUERY	
E_PREDEFINED_ROLES_UNMUTABLE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-modify-iter

[top]

Modify the attributes of user role or a group of user role objects.

Input Name	Range	Type	Description
attributes		security-login-role-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue modifying the next matching security login role even when modification of a previous security login role fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login role even when the modification of a previous matching security login role fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed

			modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		security-login-role-info	If modifying a specific security login role, this input element must specify all keys. If modifying security login role objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were not modified due to some error. If set to false, the list of security login role objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were successfully updated. If set to false, the list of security login role objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-role-modify-iter-info[] optional	Information about security login role objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login role objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of security login role objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login role objects that matched the query and were successfully updated.
success-list		security-login-role-modify-iter-info[] optional	The security login role objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-unlock

[top]

Unlock a user account that uses password as authentication method. Returns an error if the user account does not use password authentication.

Input Name	Range	Type	Description
user-name		string	Name of the user account to be unlocked.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	

EUSERNOTFOUND	
EUSERUNLOCKFAILED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDACCESS	

security-login-whoami

[top]

Show the current user and role of this session.

Input Name	Range	Type	Description
desired-attributes		security-login-account-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		security-login-account-info	The attributes of the security login whoami.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-get

[top]

Get the security protocol configuration

Input Name	Range	Type	Description
application		string	Name of the application.Possible values: • 'rsh' • 'telnet' .
desired-attributes		security-protocol-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		security-protocol-info	The attributes of the security protocol.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-modify

[top]

Modify the security protocol configuration

Input Name	Range	Type	Description
application		string	Name of the application.Possible values: • 'rsh' • 'telnet' .
enabled		boolean	To enable or disable application.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-ssh-get

[top]

Get the security protocol ssh configuration

Input Name	Range	Type	Description
desired-attributes		security-protocol-ssh-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		security-protocol-ssh-info	The attributes of the security protocol ssh.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-ssh-modify

[top]

Modifies the security protocol ssh configuration.

Input Name	Range	Type	Description
connections-per-second	**[1..70]**	integer	Connections Per Second
max-instances	**[1..128]**	integer	Maximum Number of Instances
per-source-limit	**[1..64]**	integer	Per-Source Limit

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-saml-sp-create-async

[top]

Configure SAML service provider information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

Input Name	Range	Type	Description
cert-ca		string optional	Specify the service prvider's certificate issuing CA.
cert-common-name		common-name optional	Specify the service providers certificate's common name.
cert-serial		string optional	Specify the service providers certificate's serial number.
idp-uri		uri	Specify the URI containing the metadata of the identity provider.
sp-host		remote-inet-address optional	Specify the SAML SP service provider host address.
verify-metadata-server		boolean optional	Specify whether to verify the IdP metadata server identity.

Output Name	Range	Type	Description
result		saml-sp-config-info optional	The security created (keys or the entire object if requested)
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this security.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EINTERNALERROR	

security-saml-sp-destroy

[top]

Delete SAML service provider configuration information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-saml-sp-get

[top]

Get SAML service provider configuration information

Input Name	Range	Type	Description
desired-attributes		saml-sp-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		saml-sp-config-info	The attributes of the security.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-saml-sp-modify

[top]

Modify SAML service provider configuration information. Note that this may restart the web server. Any HTTP/S connections that are active may be disrupted. Prior to disabling SAML service provider authentication, to prevent losing access, ensure that there are user accounts configured for non-SAML authentication.

Input Name	Range	Type	Description
is-enabled		boolean optional	Enable or disable the configured SAML SP for authentication.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-ssh-add

[top]

Adds the input algorithms, ciphers and mac algorithms to the SSH configuration. Existing algorithms, ciphers and mac algorithms remain in the configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is not currently enabled in the configuration.

Input Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers to Add
key-exchange-algorithms		kex-algorithms[] optional	List of SSH Key Exchange Algorithms to Add
mac-algorithms		mac-algorithms[] optional	List of SSH MAC Algorithms to Add
vserver		vserver-name-data-admin optional	Name of Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-ssh-get-iter

[top]

Display SSH configuration options

Input Name	Range	Type	Description
desired-attributes		security-ssh-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		security-ssh-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ssh object. All ssh objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-ssh-info[] optional	The list of attributes of ssh objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ssh objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-ssh-remove

[top]

Removes the input algorithms, ciphers and MAC algorithms from the SSH configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is already currently enabled in the configuration.

Input Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers to Remove
key-exchange-algorithms		kex-algorithms[] optional	List of SSH Key Exchange Algorithms to Remove
mac-algorithms		mac-algorithms[] optional	List of SSH MAC algorithms to Remove
vserver		vserver-name-data-admin optional	Name of Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-ssh-reset

[top]

Enable and replace SSH configuration options to this new setting

Input Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers enabled. Possible values: • "aes256_ctr" , • "aes192_ctr" , • "aes128_ctr" , • "aes256_cbc" , • "aes192_cbc" , • "aes128_cbc" , • "3des_cbc" , • "aes128_gcm" , • "aes256_gcm"
key-exchange-algorithms		kex-algorithms[] optional	List of SSH key exchange algorithms enabled. Possible values: • "diffie_hellman_group_exchange_sha256" , • "diffie_hellman_group_exchange_sha1" , • "diffie_hellman_group14_sha1" , • "diffie_hellman_group1_sha1" , • "ecdh_sha2_nistp256" , • "ecdh_sha2_nistp384" , • "ecdh_sha2_nistp521" , • "curve25519_sha256"
mac-algorithms		mac-algorithms[] optional	List of SSH MAC algorithms enabled. Possible values: • "hmac_md5" , • "hmac_md5_96" , • "hmac_md5_etm" , • "hmac_md5_96_etm" , • "hmac_ripemd160" , • "hmac_ripemd160_etm" , • "hmac_sha1" , • "hmac_sha1_etm" , • "hmac_sha1_96" , • "hmac_sha1_96_etm" , • "hmac_sha2_256" , • "hmac_sha2_256_etm" , • "hmac_sha2_512" , • "hmac_sha2_512_etm" , • "umac_64" , • "umac_128" , • "umac_64_etm" , • "umac_128_etm"
max-authentication-retry-count	**[2..6]**	integer optional	Maximum Authentication Retry Count.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ciphers**

[top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,
- "umac_128_etm"

[none]

Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **saml-sp-config-info**

[top]

SAML SP configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cert-ca		string optional	Specify the service prvider's certificate issuing CA. Attributes: optional-for-create, non-modifiable
cert-common-name		common-name optional	Specify the service providers certificate's common name. Attributes: optional-for-create, non-modifiable
cert-serial		string optional	Specify the service providers certificate's serial number. Attributes: optional-for-create, non-modifiable
idp-uri		uri optional	Specify the URI containing the metadata of the identity provider. Attributes: required-for-create, non-modifiable
is-enabled		boolean optional	Enable or disable the configured SAML SP for authentication. Attributes: non-creatable, modifiable
sp-host		remote-inet-address optional	Specify the SAML SP service provider host address. Attributes: optional-for-create, non-modifiable
verify-metadata-server		boolean optional	Specify whether to verify the IdP metadata server identity. Attributes: optional-for-create, non-modifiable

Element definition: **security-config-info**

[top]

Provide Security Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-security-config-ready		boolean optional	Cluster Security Configuration Ready. Deprecated as of ONTAP 9.9 and may be removed in a future release. Attributes: non-creatable, non-modifiable
interface		fips-interfaces optional	Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable Possible values: • "ssl"
is-fips-enabled		boolean optional	Data ONTAP FIPS Mode. Attributes: optional-for-create, modifiable
supported-cipher-suites		string[] optional	Data ONTAP Supported Cipher Suites. Attributes: optional-for-create, modifiable
supported-ciphers		string optional	Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: optional-for-create, modifiable
supported-protocols		string[] optional	Data ONTAP Supported Protocols. Attributes: optional-for-create, modifiable

Element definition: **security-config-ocsp**

[top]

OCSP Support Status for Applications When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Application Name Possible values: • 'autosupport' - AutoSupport, • 'audit_log' - Audit-Logging, • 'fabricpool' - FabricPool, • 'ems' - EMS, • 'kmip' - KMIP, • 'ldap_ad' - LDAP-AD, • 'ldap_nis_namemap' - LDAP-NIS-NameMap, • 'ssh' - SSH, • 'all' - All Applications Attributes: key, non-creatable, non-modifiable
is-ocsp-enabled		boolean optional	Is OCSP-based Certificate Status Check Enabled? Attributes: non-creatable, non-modifiable

Element definition: **security-login-account-info**

[top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' . Attributes: key, required-for-create, non-modifiable
			Authentication method for the application. Possible values: 'community',

authentication-method		string optional	'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. Attributes: key, required-for-create, non-modifiable
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable
is-ldap-fastbind		boolean optional	Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-create, modifiable
is-locked		boolean optional	Account Locked Attributes: non-creatable, non-modifiable
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: • sha512 • sha256 • md5 Attributes: non-creatable, non-modifiable
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable
role-name		string optional	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'. Attributes: optional-for-create, modifiable
user-name		string optional	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login account object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-key		security-login-account-info	The keys for the security login account object to which the deletion applies.

Element definition: **security-login-expire-password-iter-info**

[top]

Information about the operation that was attempted/performed against security object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-key		security-login-password-user-info	The keys for the security object to which the operation applies.

Element definition: **security-login-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login account object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
security-key		security-login-account-info	The keys for the security login account object to which the modify operation applies.

Element definition: **security-login-password-user-info**

[top]

Information of users with password authentication method When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
password-hash-algorithm		string	Password Hash Function Attributes: non-creatable, non-modifiable

		optional	
user-name		string optional	Username Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-expiry-time		string optional	This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable
account-inactive-limit		string optional	This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. Attributes: non-creatable, modifiable
change-password-duration-in-days	**[0..1000]**	integer optional	This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable
delay-after-failed-login	**[1..60]**	integer optional	This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable
last-passwords-disallowed-count	**[1..25]**	integer optional	This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable
lockout-duration	**[0..2^32-1]**	integer optional	This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable
max-failed-login-attempts	**[0..2^32-1]**	integer optional	This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable
min-passwd-specialchar	**[0..64]**	integer optional	This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable
min-password-size	**[3..64]**	integer optional	This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable
min-username-size	**[3..16]**	integer optional	The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable
passwd-expiry-warn-time		string optional	If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable
passwd-min-digits	**[0..64]**	integer optional	This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-		integer	This optionally specifies the minimum number of lowercase alphabetic

lowercase-chars	**[0..64]**	optional	characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-uppercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
password-expiration-duration		string optional	This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable
require-initial-password-update		boolean optional	This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable
require-password-alpha-numeric		boolean optional	If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
require-username-alpha-numeric		boolean optional	If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
role-name		string optional	Name of the role. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login roleconfig object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
security-key		security-login-role-config-info	The keys for the security login roleconfig object to which the modify operation applies.

Element definition: **security-login-role-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login role object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-key		security-login-role-info	The keys for the security login role object to which the deletion applies.

Element definition: **security-login-role-info**

[top]

User role information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable
command-directory-name		string optional	The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable
role-name		string optional	Name of the role. Attributes: key, required-for-create, non-modifiable
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login role object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
security-key		security-login-role-info	The keys for the security login role object to which the modify operation applies.

Element definition: **security-protocol-info**

[top]

Security protocol fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Name of the application.Possible values: • 'rsh' • 'telnet'

			. Attributes: key, non-creatable, non-modifiable
enabled		boolean optional	To enable or disable application. Attributes: non-creatable, modifiable

Element definition: **security-protocol-ssh-info**

[top]

Security protocol ssh fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connections-per-second		integer optional	Connections Per Second Attributes: non-creatable, modifiable
max-instances		integer optional	Maximum Number of Instances Attributes: non-creatable, modifiable
per-source-limit		integer optional	Per-Source Limit Attributes: non-creatable, modifiable

Element definition: **security-ssh-info**

[top]

Provide SSH configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers enabled. Attributes: optional-for-create, modifiable Possible values: • "aes256_ctr" , • "aes192_ctr" , • "aes128_ctr" , • "aes256_cbc" , • "aes192_cbc" , • "aes128_cbc" , • "3des_cbc" , • "aes128_gcm" , • "aes256_gcm"
		kex-	List of SSH key exchange algorithms enabled. Attributes: optional-for-create, modifiable Possible values: • "diffie_hellman_group_exchange_sha256" , • "diffie_hellman_group_exchange_sha1" ,

key-exchange-algorithms		algorithms[] optional	"diffie_hellman_group14_sha1" , • "diffie_hellman_group1_sha1" , • "ecdh_sha2_nistp256" , • "ecdh_sha2_nistp384" , • "ecdh_sha2_nistp521" , • "curve25519_sha256"
mac-algorithms		mac-algorithms[] optional	List of SSH MAC algorithms enabled. Attributes: optional-for-create, modifiable Possible values: • "hmac_md5" , • "hmac_md5_96" , • "hmac_md5_etm" , • "hmac_md5_96_etm" , • "hmac_ripemd160" , • "hmac_ripemd160_etm" , • "hmac_sha1" , • "hmac_sha1_etm" , • "hmac_sha1_96" , • "hmac_sha1_96_etm" , • "hmac_sha2_256" , • "hmac_sha2_256_etm" , • "hmac_sha2_512" , • "hmac_sha2_512_etm" , • "umac_64" , • "umac_128" , • "umac_64_etm" , • "umac_128_etm"
max-authentication-retry-count	**[2..6]**	integer optional	Maximum Authentication Retry Count. Attributes: optional-for-create, modifiable
vserver-name		vserver-name-data-admin optional	Name of Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snmpv3-login-info**

[top]

SNMPv3 user login information for 'usm' authentication method

Name	Range	Type	Description
authentication-password		string optional	Password for the authentication protocol. This should be minimum 8 characters long. This is required for 'md5', 'sha' and 'sha2-256' authentication protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable
authentication-protocol		string optional	Authentication protocol for the snmp user. Possible values: 'none', 'md5', 'sha' and 'sha2-256'. When cluster FIPS mode is on, 'sha' and 'sha2-256' are the only possible and valid values. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS mode is on, the default value is 'sha'. Attributes: optional-for-create, non-modifiable
engine-id		hex-string optional	Authoritative entity's EngineID for the SNMPv3 user. This is required for creating SNMPv3 users (users for SNMPv3 INFORMs) with 'usm' authentication method only. This should be specified as a hexadecimal string. Engine ID with first bit set to 1 in first octet should have a minimum of 5 or maximum of 32 octets. Engine Id with first bit set to 0 in the first octet should be 12 octets in length. Engine Id cannot have all zeros in its address For e.g. 800001460300000000000. Attributes: optional-for-create, non-modifiable
privacy-password		string optional	Password for the privacy protocol. This should be minimum 8 characters long. This is required for 'des' and 'aes128' privacy protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable
			Privacy protocol for the snmp user. Possible values: 'none', 'des' and 'aes128'.

privacy-protocol		string optional	When cluster FIPS mode is on, 'aes128' is the only possible and valid value. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS mode is on, the default value is 'aes128'. Attributes: optional-for-create, non-modifiable

Element definition: **true-false** [top]

True/False

[none]

Element definition: **uri** [top]

[none]

Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

Element definition: **ciphers** [top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

Element definition: **common-name** [top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,

- "umac_128_etm"

[none]

Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **security-login-account-info** [top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' . Attributes: key, required-for-create, non-modifiable
authentication-method		string optional	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. Attributes: key, required-for-create, non-modifiable
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable
is-ldap-		boolean	Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-

fastbind		optional	create, modifiable
is-locked		boolean optional	Account Locked Attributes: non-creatable, non-modifiable
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: • sha512 • sha256 • md5 Attributes: non-creatable, non-modifiable
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable
role-name		string optional	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'. Attributes: optional-for-create, modifiable
user-name		string optional	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-expiry-time		string optional	This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable
account-inactive-limit		string optional	This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no

			account will expire based on inactivity. Attributes: non-creatable, modifiable
change-password-duration-in-days	**[0..1000]**	integer optional	This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable
delay-after-failed-login	**[1..60]**	integer optional	This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable
last-passwords-disallowed-count	**[1..25]**	integer optional	This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable
lockout-duration	**[0..2^32-1]**	integer optional	This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable
max-failed-login-attempts	**[0..2^32-1]**	integer optional	This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable
min-passwd-specialchar	**[0..64]**	integer optional	This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable
min-password-size	**[3..64]**	integer optional	This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable
min-username-size	**[3..16]**	integer optional	The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable
passwd-expiry-warn-time		string optional	If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable
passwd-min-digits	**[0..64]**	integer optional	This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-lowercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-uppercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
password-expiration-duration		string optional	This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable
require-initial-password-update		boolean optional	This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable
require-password-alpha-numeric		boolean optional	If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
require-username-alpha-numeric		boolean optional	If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
role-name		string optional	Name of the role. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

[top]

Element definition: **security-login-role-info**

User role information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable
command-directory-name		string optional	The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable
role-name		string optional	Name of the role. Attributes: key, required-for-create, non-modifiable
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

APIs in Category: **security-certificate**

security-certificate-ca-issued-get
security-certificate-ca-issued-get-iter
security-certificate-create
security-certificate-delete
security-certificate-delete-iter
security-certificate-file-get-iter
security-certificate-generate-csr
security-certificate-get
security-certificate-get-iter
security-certificate-install
security-certificate-remove-precluster-cert
security-certificate-rename
security-certificate-revoke
security-certificate-sign
security-certificate-truststore-clear
security-certificate-truststore-load

This set of ZAPIs allows to manage certificates in a cluster environment including: creation, deletion, installation, generation of CSR, signing of certificate and revocation.

security-certificate-ca-issued-get

[top]

Get the attributes of the security-certificate-ca-issued.

Input Name	Range	Type	Description
ca-serial-number		string	Serial number of CA certificate.
certificate-authority		string	Certificate Authority
desired-attributes		certificate-ca-issued-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
serial-number		string	Serial number of certificate.

Output Name	Range	Type	Description
attributes		certificate-ca-issued-	The attributes of the security-certificate-ca-issued.

		info	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-ca-issued-get-iter

[top]

Iterate over a list of security-certificate-ca-issued objects.

Input Name	Range	Type	Description
desired-attributes		certificate-ca-issued-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		certificate-ca-issued-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-ca-issued object. All security-certificate-ca-issued objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		certificate-ca-issued-info[] optional	The list of attributes of security-certificate-ca-issued objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-certificate-ca-issued objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-certificate-create

[top]

If a certificate is created with the existing Common Name then a new certificate is generated with a different serial number

Input Name	Range	Type	Description
cert-name		string optional	Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system.
common-			Represents the domain name in FQDN form that specifies its exact

name		string	location in the tree hierarchy of the Domain Name System (DNS).
country		string optional	Name of the country. Default value is 'US'.
email-address		string optional	Email address of administrator. Default value is empty string.
expire-days		integer optional	Number of days until expiration. Default value is '365'.
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Possible values: • 'sha1' , • 'sha256' , • 'md5' , • 'sha224' , • 'sha384' , • 'sha512
is-system-internal-certificate		boolean optional	Is System Internal Certificate. Default value is 'false'.
locality		string optional	Name of the locality Default value is empty string.
organization		string optional	Name of the organization. Default value is empty string.
organization-unit		string optional	Name of the unit. Example: IT, Finance. Default value is empty string.
size		string optional	Size of requested certificate in bits. Default value is '2048'. Possible values: • '512' - 512 bits private key, • '1024' - 1024 bits private key, • '1536' - 1536 bits private key, • '2048' - 2048 bits private key, • '3072' - 3072 bits private key
state		string optional	Name of the state. Default value is empty string.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication
vserver		string optional	Name of vserver. Default value is Cserver.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-delete

[top]

Delete an existing security-certificate object.

Input Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver.
certificate-authority		string	Certificate Authority
common-name		string	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
is-system-internal-certificate		boolean optional	Is System Internal Certificate
serial-number		string optional	Serial number of certificate.
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication
vserver		string optional	Name of vserver. Default value is Cserver.

Errno	Description
E_CERTIFICATE_CANNOT_DELETE_DEFAULT	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-delete-iter

[top]

Delete an existing security-certificate or a group of security-certificate objects.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security-certificate objects match a given query. If set to true, the API will continue deleting the next matching security-certificate even when the deletion of a previous security-certificate fails. If set to false, the API will return on the first failure. Default: false

max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security-certificate even when the deletion of a previous matching security-certificate fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security-certificate objects to delete in this call. Default: 20
query		certificate-info	If deleting a specific security-certificate, this input element must specify all keys. If deleting multiple security-certificate objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security-certificate objects (just keys) that were not deleted due to some error. If set to false, the list of security-certificate objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security-certificate objects (just keys) that were successfully deleted. If set to false, the list of security-certificate objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-certificate-delete-iter-info[] optional	Information about security-certificate objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security-certificate objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of security-certificate objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security-certificate objects that matched the query and were successfully deleted.
success-list		security-certificate-delete-iter-info[] optional	The security-certificate objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
E_CERTIFICATE_CANNOT_DELETE_DEFAULT	

security-certificate-file-get-iter

[top]

Iterate over a list of security-certificate-file objects.

Input Name	Range	Type	Description
desired-attributes		certificate-file-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		certificate-file-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-file object. All security-certificate-file objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		certificate-file-info[] optional	The list of attributes of security-certificate-file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-certificate-file objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-certificate-generate-csr

[top]

Generate a digital certificate signing request(CSR)

Input Name	Range	Type	Description
common-name		string	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
country		string optional	Name of the country.
email-address		string optional	Email address of administrator.
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Possible values: • 'sha1' , • 'sha256' , • 'md5' , • 'sha224' , • 'sha384' , • 'sha512'
locality		string optional	Name of the locality.
organization		string	Name of the organization.

		optional	
organization-unit		string optional	Name of the unit. Example: IT, Finance.
size		string optional	Size of requested certificate in bits. Default value is '2048'. Deprecated as of ONTAP 9.8 and may be removed in future releases. Possible values: • '512' - 512 bits private key, • '1024' - 1024 bits private key, • '1536' - 1536 bits private key, • '2048' - 2048 bits private key, • '3072' - 3072 bits private key
state		string optional	Name of the state.

Output Name	Range	Type	Description
csr		string	Certificate Signing Request
private-key		string	Private Key

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-get

[top]

Get the attributes of the security-certificate.

Input Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver.
certificate-authority		string	Certificate Authority
common-name		string	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
desired-attributes		certificate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
serial-number		string optional	Serial number of certificate.
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on the client,

			'server_ca' - CA who signed user certificates on the server, • 'server_chain' - Intermediate certificate for server authentication

Output Name	Range	Type	Description
attributes		certificate-info	The attributes of the security-certificate.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-get-iter

[top]

Iterate over a list of security-certificate objects.

Input Name	Range	Type	Description
desired-attributes		certificate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		certificate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate object. All security-certificate objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		certificate-info[] optional	The list of attributes of security-certificate objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-certificate objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-certificate-install

[top]

Install a digital certificate

Input Name	Range	Type	Description
cert-name		string optional	Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system.
certificate		string	Public Key Certificate
common-name		common-name optional	FQDN or custom common name. This field is available from Data ONTAP 8.3.3 onwards and is only applicable if the certificate has an empty subject field and a valid subject alternate name extension. This field must have a valid common name to install such a certificate.
intermediate-cert-list		pubcertificate[] optional	Chain of Intermediate Certificates
is-system-internal-certificate		boolean optional	Netapp internal certificate. Default value is 'false'.
private-key		string optional	Private Key
subtype		subtype optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server
vserver		string optional	Name of vserver. Default value is Cserver.

Output Name	Range	Type	Description
ca		string optional	Installed certificate's CA for reference.
serial		string optional	Installed certificate's serial number for reference.

Errno	Description
E_CERTIFICATE_SUBTYPE_ONLY_SUPPORT_FOR_ADMIN_VSERVER	
E_CERTIFICATE_CERT_TYPE_WITH_SUBTYPE_NOT_APPLICABLE	
E_CERTIFICATE_CERT_EMPTY	
E_CERTIFICATE_PRIVATE_KEY_EMPTY	
E_CERTIFICATE_INTERMEDIATE_EMPTY	
E_CERTIFICATE_MULTIPLE_INTERMEDIATE_EMPTY	
E_CERTIFICATE_INTERMEDIATE_UNSUPPORTED_TYPE	
E_CERTIFICATE_DUPLICATE_SERVER_CHAIN_ENTRY	
E_CERTIFICATE_EMPTY_VSERVER_DIR_PATH	
E_CERTIFICATE_INSTALLATION_NEEDS_COMMON_NAME	
E_CERTIFICATE_FAILED_TO_INSTALL_CERTIFICATE	
E_CERTIFICATE_CANNOT_ACCEPT_PRIVATE_KEY	
E_CERTIFICATE_FAILED_TO_EXTRACT_CERTIFICATE_INFORMATION	
E_CERTIFICATE_CANNOT_EXTRACT_ISSUER	
E_CERTIFICATE_INVALID_COMMON_NAME	

E_CERTIFICATE_FAILED_TO_EXTRACT_COMMON_NAME	
E_LIBSSLMGNT_UI_EVP_PKEY_READ_KEY	
E_LIBSSLMGNT_UI_X509_READ_BIO	
E_LIBSSLMGNT_UI_X509_MISMATCH_KEY	
E_LIBSSLMGNT_UI_X509_TOO_EARLY	
E_LIBSSLMGNT_UI_X509_EXPIRED	
E_LIBSSLMGNT_UI_X509_VERIFY_CHAIN	
E_LIBSSLMGNT_UI_X509_FIPS_UNSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-remove-precluster-cert

[top]

Removes the auto-generated precluster certificate

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-rename

[top]

Rename a digital certificate.

Input Name	Range	Type	Description
cert-name		string	The current name for the certificate.
new-name		string	The desired name for the certificate.
vserver		vserver-name-data-admin	Name of vserver.

Errno	Description
EINTERNALERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-revoke

[top]

Revoke a digital certificate

Input Name	Range	Type	Description

ca-serial-number		string	Serial number of CA certificate.
certificate-authority		string	Certificate Authority
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
serial-number		string	Serial number of certificate.
vserver		string optional	Name of vserver. Default value is Cserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-sign

[top]

Sign a certificate using self-signed root CA

Input Name	Range	Type	Description
ca-serial-number		string	Serial number of CA certificate.
certificate-authority		string	Certificate Authority to Sign
csr		string	Certificate signing request.
destination		uri optional	URI to send file to. Example: ftp://abc.com.
expire-days		integer optional	Number of days until expiration. Default value is '365'.
filepassword		string optional	Password for PKCS12 file
format		string optional	Certificate Format. Default value is 'PEM'. Possible values: • 'pkcs12' , • 'pem'
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Possible values: • 'sha1' , • 'sha256' , • 'md5' , • 'sha224' , • 'sha384' , • 'sha512'
password		string	Destination URI password

		optional	
private-key		string optional	Private Key
username		string optional	Destination URI username
vserver		string optional	Name of vserver. Default value is Cserver.

Output Name	Range	Type	Description
signed-cert		string	Signed certificate.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-truststore-clear

[top]

Clear the default root certificates from truststore

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-truststore-load

[top]

Load the default root certificates to truststore

Input Name	Range	Type	Description
ontap-version		ontap-version optional	Certificates from specific ONTAP version
password		string optional	Password to access the URL
path		string optional	File to load PEM certificates from
uri		string optional	URL to download PEM certificates from
username		string optional	Username to access the URL

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **certificate-ca-issued-info**

[top]

Information about issued digital certificates by Self-Signed Root CA When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ca-serial-number		string optional	Serial number of CA certificate. Attributes: key, required-for-create, non-modifiable
certificate-authority		string optional	Certificate Authority Attributes: key, required-for-create, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: required-for-create, non-modifiable
country		string optional	Name of the country. Attributes: required-for-create, non-modifiable
email-addr		string optional	Email address of administrator. Attributes: required-for-create, non-modifiable
expiration-date	**[0..2^31-1]**	integer optional	Certificate expiration date. Attributes: non-creatable, non-modifiable
locality		string optional	Name of the locality. Attributes: required-for-create, non-modifiable
organization		string optional	Name of the organization. Attributes: required-for-create, non-modifiable
organization-unit		string optional	Name of the unit. Example: IT, Finance. Attributes: required-for-create, non-modifiable
revocation-date	**[0..2^31-1]**	integer optional	Certificate revocation date. Attributes: optional-for-create, modifiable
serial-number		string optional	Serial number of certificate. Attributes: key, required-for-create, non-modifiable
state		string optional	Name of the state. Attributes: required-for-create, non-modifiable
status		string optional	Status of certificate. Attributes: required-for-create, non-modifiable Possible values: • "active" , • "revoked"
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

Element definition: **certificate-file-info**

[top]

Information about location of certificate files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Certificate Authority. Attributes: key, non-creatable, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, non-creatable, non-modifiable
exists		boolean optional	Certificate File Exists Attributes: non-creatable, non-modifiable
file		string optional	Type of file. Attributes: key, non-creatable, non-modifiable Possible values: • "certificate" - Public Key, • "key" - Private Key, • "crl" - Certificate Revocation List
node-name		string optional	The node on which the file exists. Attributes: key, non-creatable, non-modifiable
path		string optional	Path of the file in the file system. Attributes: non-creatable, non-modifiable
protocol		string optional	Protocol Attributes: non-creatable, non-modifiable Possible values: • "ssl"
serial-number		string optional	Serial number of certificate. Attributes: key, non-creatable, non-modifiable
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, non-creatable, non-modifiable
type		string optional	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

Element definition: **certificate-info**

[top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable
certificate-authority		string optional	Certificate Authority Attributes: key, required-for-create, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable
country		string optional	Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable
email-address		string optional	Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable
expiration-date	**[0..2^63-1]**	integer optional	Certificate Expiration Date Attributes: non-creatable, non-modifiable
expire-days	**[1..3652]**	integer optional	Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable
is-default		boolean optional	Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable
is-root		boolean optional	Is Root CA Certificate? Attributes: non-creatable, non-modifiable
is-system-generated		boolean optional	Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable
locality		string optional	Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable
organization		string optional	Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable
organization-unit		string optional	Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable
protocol		string optional	Protocol Attributes: required-for-create, non-modifiable Possible values: • "ssl"
public-certificate		string optional	Public Key Certificate Attributes: non-creatable, non-modifiable
self-signed		boolean optional	Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of certificate. Attributes: key, required-for-create, non-modifiable
size		string optional	Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable
start-date	**[0..2^31-1]**	integer optional	Certificate Start Date Attributes: non-creatable, non-modifiable

state		string optional	Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable
type		string optional	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **ontap-version**

[top]

Possible values:

- "9_2" ,
- "9_7" ,
- "9_8" ,
- "9_9_1" ,
- "9_10_0" ,
- "9_10_1" ,
- "9_11_0" ,
- "9_12_0" ,
- "9_13_0" ,
- "9_13_1"

[none]

Element definition: **pubcertificate**

[top]

[none]

Element definition: **security-certificate-delete-iter-info** [top]

Information about the deletion operation that was attempted/performed against security-certificate object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-certificate-key		certificate-info	The keys for the security-certificate object to which the deletion applies.

Element definition: **subtype** [top]

Certificate subtype

[none]

Element definition: **uri** [top]

[none]

Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

Element definition: **certificate-info** [top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable
certificate-authority		string optional	Certificate Authority Attributes: key, required-for-create, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable
country		string optional	Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable
email-address		string optional	Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable
expiration-date	**[0..2^63-1]**	integer optional	Certificate Expiration Date Attributes: non-creatable, non-modifiable
expire-days	**[1..3652]**	integer optional	Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable
is-default		boolean optional	Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable
is-root		boolean optional	Is Root CA Certificate? Attributes: non-creatable, non-modifiable
is-system-generated		boolean optional	Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable
locality		string optional	Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable
organization		string optional	Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable
organization-unit		string optional	Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable
protocol		string optional	Protocol Attributes: required-for-create, non-modifiable Possible values: • "ssl"
public-certificate		string optional	Public Key Certificate Attributes: non-creatable, non-modifiable
self-signed		boolean optional	Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of certificate. Attributes: key, required-for-create, non-modifiable
size		string optional	Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable
start-date	**[0..2^31-1]**	integer optional	Certificate Start Date Attributes: non-creatable, non-modifiable
state		string optional	Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable

type		string optional	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

APIs in Category: **security-key-manager**

This set of APIs manages the key manager and its attributes.

external-restore-get-iter
external-status-get-iter
key-query-get-iter
security-key-manager-config-get
security-key-manager-config-modify
security-key-manager-delete-keys
security-key-manager-delete-kmip-config
security-key-manager-external-add-servers
security-key-manager-external-disable
security-key-manager-external-enable
security-key-manager-external-get
security-key-manager-external-get-iter
security-key-manager-external-modify
security-key-manager-external-modify-server
security-key-manager-external-remove-servers
security-key-manager-key-database-create-key
security-key-manager-key-database-delete-key
security-key-manager-key-migrate
security-key-manager-key-store-get-iter
security-key-manager-onboard-backup-get
security-key-manager-onboard-disable
security-key-manager-onboard-enable
security-key-manager-onboard-sync
security-key-manager-onboard-update-passphrase
security-key-manager-setup
security-key-manager-update-passphrase
security-key-manager-volume-encryption-

supported

external-restore-get-iter

[top]

Restore the key IDs from all the key management servers known to this cluster.

Input Name	Range	Type	Description
desired-attributes		key-manager-external-restore optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		key-manager-external-restore optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		key-manager-external-restore[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

external-status-get-iter

[top]

Lists the connectivity status for all key management servers known to the cluster.

Input Name	Range	Type	Description
desired-attributes		external-key-manager-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
	[1..2^32-	integer	

max-records	**1]**	optional	The maximum number of records to return in this call. Default: 20
query		external-key-manager-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		external-key-manager-status[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

key-query-get-iter

[top]

Lists the keys in the key managers.

Input Name	Range	Type	Description
desired-attributes		keymanager-key-query-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		keymanager-key-query-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		keymanager-key-query-info[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
	[0..2^32-		

num-records	**1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-key-manager-config-get

[top]

Display Key Management Configuration

Input Name	Range	Type	Description
desired-attributes		keymanager-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		keymanager-config-info	The attributes of the security-key-manager.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-config-modify

[top]

Modify Key Management Configuration

Input Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode
cc-mode-enabled		boolean optional	CC-Mode Enabled.
health-monitor-polling-interval	**[15..30]**	integer optional	Health Monitor Polling Period (in minutes)
okm-on-usb-enabled		boolean optional	OKM-on-USB Enabled.
onboard-passphrase		string optional	Current onboard cluster-wide passphrase.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-delete-keys

[top]

Deletes the key hierarchy for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Input Name	Range	Type	Description
passphrase		string optional	The Onboard Key Manager cluster-wide passphrase.

Errno	Description
E_KEY_MANAGER_NOT_ENABLED	
E_KEY_MANAGER_NOT_SETUP	
E_PASSPHRASE_LEN_EXCEEDS_RANGE	
E_FAILED_PASSPHRASE_VERIFY	
E_INCORRECT_PASSPHRASE	
E_FOUND_ENCRYPTED_VOLUMES	
E_UNSUPPORTED_ONB_ECV	
EINTERNALERROR	

security-key-manager-delete-kmip-config

[top]

Deletes the KMIP configuration. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Errno	Description
E_UNSUPPORTED_ONB_ECV	
E_KMIP_NOT_CONFIGURED	
E_NSE_AK_IS_SET	
E_FOUND_ENCRYPTED_VOLUMES	
EINTERNALERROR	
E_EXT_KMIP_SERVER_CONF	
E_CHECKING_KMIP_SERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-add-servers

[top]

Add additional external key management servers

Input Name	Range	Type	Description
key-servers		string[]	The key management servers to add.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Errno	Description
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-disable

[top]

Disable external key management

Input Name	Range	Type	Description
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-enable

[top]

Enable external key management

Input Name	Range	Type	Description
client-cert		string	The name of the client certificate.
key-servers		string[]	The set of key management servers.
keyservers-are-clustered		boolean optional	Are the key servers clustered?
policy		string optional	The key manager policy.
server-ca-certs		string[]	The names of the server CA certificates.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
MT_EK_MGMT

security-key-manager-external-get

[top]

Get information about a registered key management server.

Input Name	Range	Type	Description
desired-attributes		external-key-manager-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
key-server		string optional	The key server name with port.

Output Name	Range	Type	Description
attributes		external-key-manager-info	The attributes of the security-key-manager-external.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-external-get-iter

[top]

Lists registered key management servers known to the cluster.

Input Name	Range	Type	Description
desired-attributes		external-key-manager-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		external-key-manager-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-external object. All security-key-manager-external objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		external-key-manager-info[] optional	The list of attributes of security-key-manager-external objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager-external objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-key-manager-external-modify

[top]

Modify external key management

Input Name	Range	Type	Description
client-cert		string optional	The name of the new client certificate.
keyservers-are-clustered		boolean optional	Are the key servers clustered?
server-ca-certs		string[] optional	The names of the new server CA certificates.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-modify-server

[top]

Modify information about an external key management server

Input Name	Range	Type	Description
key-server		string	The key server to modify.
password		string optional	The new key server authentication password.
secondary-key-servers		remote-inet-address[] optional	The secondary key servers.
timeout		integer optional	The new key server I/O timeout.
username		string optional	The new key server authentication username.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-remove-servers

[top]

Remove external key management servers

Input Name	Range	Type	Description
key-servers		string[]	The key management servers to remove.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-key-database-create-key

[top]

Create a new authentication key on the key manager

Input Name	Range	Type	Description
key-tag		string optional	The key tag.
passphrase		string optional	The key AK passphrase.

Output Name	Range	Type	Description
error-status		keymanager-status optional	The action status.
key-id		hex-string optional	The key ID.
restore-failure-list		node-name[] optional	Nodes on which the newly-created key was not successfully restored.
restore-success-list		node-name[] optional	Nodes on which the newly-created key was successfully restored.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-key-database-delete-key

[top]

Delete an existing authentication key on the key manager

Input Name	Range	Type	Description
key-id		hex-string	The ID of the key to delete.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-key-migrate

[top]

Migrate keys from one vserver to another

Input Name	Range	Type	Description
from-vserver		vserver-name	The Vserver name to migrate from.
to-vserver		vserver-name	The Vserver name to migrate to.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-key-store-get-iter

[top]

Lists all configured key managers.

Input Name	Range	Type	Description
desired-attributes		keymanager-key-store-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		keymanager-key-store-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		keymanager-key-store-info[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-key-manager-onboard-backup-get

[top]

Get backup of key hierarchy

Input Name	Range	Type	Description
vserver		string optional	The admin Vserver.

Output Name	Range	Type	Description
key-backup		string	The salt and wrapped keys as a hex dump.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-disable

[top]

Disable the Onboard Key Manager

Input Name	Range	Type	Description
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-enable

[top]

Enable the Onboard Key Manager

Input Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode
cc-mode-enabled		boolean optional	Common Criteria mode enabled?
okm-on-usb-enabled		boolean optional	OKM-on-USB enabled?
onboard-passphrase		string optional	The Onboard Key Manager Cluster-Wide Passphrase
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-sync

[top]

Sync the Onboard Key Manager Keys

Input Name	Range	Type	Description
passphrase		string	Onboard Cluster-wide Passphrase
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-update-passphrase

[top]

Update the Onboard Key Manager Passphrase

Input Name	Range	Type	Description
existing-passphrase		string	The existing the Onboard Key Manager passphrase.
new-passphrase		string	The new the Onboard Key Manager passphrase.
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-setup

[top]

Configure key manager connectivity. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Input Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in CC-Mode
cc-mode-enabled		boolean optional	Enable Common Criteria Mode?
key-manager-boot-address		ip-address	Key Manager Boot Node IPv4 Address

		optional	
key-manager-boot-addressV6		ip-address optional	Key Manager Boot Node IPv6 Address
key-manager-boot-gateway		ip-address optional	IPv4 Gateway for the Key Server
key-manager-boot-gatewayV6		ip-address optional	IPv6 Gateway for the Key Server
key-manager-boot-interface		lif-bindable optional	Physical Interface Used to Contact Key Server
key-manager-boot-netmask		ip-address optional	Netmask for the Key Server
key-manager-boot-port		integer optional	TCP Port for the Key Server
key-manager-boot-prefixlen		integer optional	IPv6 Prefix Length
node		filer-id optional	Node Name
onboard-passphrase		string optional	Onboard Key Manager Cluster-wide Passphrase
sync-metrocluster-config		boolean optional	Sync MetroCluster Configuration from Peer
use-external-usb		boolean optional	Use external USB for Onboard Key Storage

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-update-passphrase

[top]

Update passphrase for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Input Name	Range	Type	Description
new-passphrase		string	New onboard cluster-wide passphrase
onboard-passphrase		string	Current onboard cluster-wide passphrase

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-volume-encryption-supported

[top]

Checks if Volume encryption is supported on this node

Input Name	Range	Type	Description
node		string	Node Name
vserver		string optional	Vserver Name

Output Name	Range	Type	Description
vol-encryption-supported		boolean	Volume encryption supported

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **external-key-manager-info**

[top]

Returns External Key Management Server Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-cert		string optional	The name of the client certificate. Attributes: non-creatable, non-modifiable
info		string optional	Any Key Server Registered or Not Attributes: non-creatable, non-modifiable
key-server		string optional	The key server name with port. Attributes: key, non-creatable, non-modifiable
keyservers-are-clustered		boolean optional	Are the key servers clustered? Attributes: non-creatable, non-modifiable
secondary-key-servers		string[] optional	The secondary key servers. Attributes: non-creatable, non-modifiable
server-ca-certs		string[] optional	The names of the server CA certificates. Attributes: non-creatable, non-modifiable
timeout	**[-1..60]**	integer optional	The key server I/O timeout. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **external-key-manager-status**

[top]

Returns External Key Management Server Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-server		string optional	Primary Key Server Attributes: key, non-creatable, non-modifiable
key-server-status		keymanager-server-status optional	Key Server Status Attributes: non-creatable, non-modifiable Possible values: • "available" - Key server available, • "not_responding" - Key server is not responding, • "unknown" - Key server status is unknown
node		node-name optional	Node Name Attributes: key, non-creatable, non-modifiable
secondary-key-servers		string[] optional	Secondary Key Servers Attributes: non-creatable, non-modifiable
status-details		string optional	Key Server Status Details Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **key-manager-external-restore**

[top]

Information about the key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-id		hex-string optional	The ID of the restored key. Attributes: key, non-creatable, non-modifiable
key-server		string optional	The key server from which the key was restored. Attributes: key, non-creatable, non-modifiable
key-tag		string optional	The tag of the restored key. Attributes: key, non-creatable, non-modifiable
node-name		node-name optional	The node name. Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **keymanager-config-info**

[top]

Provide Key Management Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode Attributes: non-creatable, modifiable
cc-mode-enabled		boolean optional	CC-Mode Enabled. Attributes: non-creatable, modifiable
health-monitor-polling-interval	**[15..30]**	integer optional	Health Monitor Polling Period (in minutes) Attributes: non-creatable, modifiable
okm-on-usb-enabled		boolean optional	OKM-on-USB Enabled. Attributes: non-creatable, modifiable

onboard-passphrase		string optional	Current onboard cluster-wide passphrase. Attributes: non-creatable, modifiable

Element definition: **keymanager-key-query-info**

[top]

Returns Information About the Keys in the Key Manager When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-id		hex-string optional	The key ID. Attributes: key, non-creatable, non-modifiable
key-server		string optional	The key server. Attributes: key, non-creatable, non-modifiable
key-store		keystore optional	The key manager type. Attributes: non-creatable, non-modifiable Possible values: • "onboard" - Onboard Key Database, • "external" - External KMIP Server Key Database
key-tag		string optional	The key tag. Attributes: non-creatable, non-modifiable
key-type		keyusagetype optional	The key type. Attributes: non-creatable, non-modifiable Possible values: • "nse_ak" - Authentication Key for NSE drive, • "aek" - Aggregate Encryption Key, • "vek" - Volume Encryption Key, • "nek" - NVRAM Encryption Key, • "svm_kek" - SVM Key Encryption Key for wrapping VEK
key-user		vserver-name optional	The key user. Attributes: non-creatable, non-modifiable
node		node-name optional	The node name. Attributes: key, non-creatable, non-modifiable
restored		boolean optional	Is Key/Key ID Pair in Node's Key Table? Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **keymanager-key-store-info**

[top]

Returns Information About Configured Key Managers When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-store		keystore optional	The key store. Attributes: non-creatable, non-modifiable Possible values: • "onboard" - Onboard Key Database, • "external" - External KMIP Server Key Database
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **keymanager-status**

[top]

Key Manager Command Error Status Possible values:

- "ok" ,
- "error_unknown" ,
- "error_invalid_op" ,
- "error_internal" ,
- "error_operation_timeout" ,
- "error_client_cert_file_missing" ,
- "error_server_cert_missing" ,
- "error_server_connection" ,
- "error_server_duplicate" ,
- "error_server_not_found" ,
- "error_server_not_supported" ,
- "error_server_not_registered" ,
- "error_server_max" ,
- "error_server_delete_failed" ,
- "error_key_restore_completed" ,
- "error_key_restore_init" ,
- "error_key_restore_in_progress" ,
- "error_key_restore_failed" ,
- "error_key_gen_crypto_failed" ,
- "error_key_gen_hexstr_failed" ,
- "error_key_backup_failed" ,
- "error_key_duplicate_found" ,
- "error_key_del_crypto_failed" ,
- "error_kmip_bootarg_unset" ,
- "error_wrapping_key_not_found" ,
- "error_key_unwrapping_failed" ,
- "error_key_manager_not_setup"

[none]

Element definition: **lif-bindable** [top]

|

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **hex-string** [top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **keymanager-server-status** [top]

available|not-responding|unknown Possible values:

- "available" - Key server available,
- "not_responding" - Key server is not responding,
- "unknown" - Key server status is unknown

[none]

Element definition: **keystore**

[top]

Key Store Possible values:

- "onboard" - Onboard Key Database,
- "external" - External KMIP Server Key Database

[none]

Element definition: **keyusagetype**

[top]

Key Usage Type Possible values:

- "nse_ak" - Authentication Key for NSE drive,
- "aek" - Aggregate Encryption Key,
- "vek" - Volume Encryption Key,
- "nek" - NVRAM Encryption Key,
- "svm_kek" - SVM Key Encryption Key for wrapping VEK

[none]

APIs in Category: **security-session**

security-session-application-stats-get-iter
security-session-kill-cli-iter
security-session-limit-application-create
security-session-limit-application-delete
security-session-limit-application-get-iter
security-session-limit-application-modify
security-session-limit-create
security-session-limit-delete
security-session-limit-get-iter
security-session-limit-location-create
security-session-limit-location-delete
security-session-limit-location-get-iter
security-session-limit-location-modify
security-session-limit-modify
security-session-limit-request-create
security-session-limit-request-delete
security-session-limit-request-get-iter
security-session-limit-request-modify
security-session-limit-user-create
security-session-limit-user-delete
security-session-limit-user-get-iter
security-session-limit-user-modify
security-session-limit-vserver-create
security-session-limit-vserver-delete
security-session-limit-vserver-get-iter
security-session-limit-vserver-modify

This set of APIs allows viewing session statistics and configuring session limits.

security-session-location-stats-get-iter
security-session-request-stats-get-iter
security-session-running-stats-get-iter
security-session-user-stats-get-iter
security-session-vserver-stats-get-iter

security-session-application-stats-get-iter

[top]

Returns session application statistics.

Input Name	Range	Type	Description
desired-attributes		session-application-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-application-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-application-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-kill-cli-iter

[top]

Kill a CLI session

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security-session objects match a given query. If set to true, the API will continue with the next matching security-session even when the operation fails for the security-session. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-session even when the operation on a previous matching security-session fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security-session objects to be operated in this call. Default: 20
query		session-running-stats-info	If operating on a specific security-session, this input element must specify all keys. If operating on security-session objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security-session objects (just keys) that were not operated on due to some error. If set to false, the list of security-session objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security-session objects (just keys) that were successfully operated on. If set to false, the list of security-session objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-session-kill-cli-iter-info[] optional	Information about security-session objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security-session objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of security-session objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security-session objects that matched the query and were successfully processed.
success-list		security-session-kill-cli-iter-info[] optional	The security-session objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

security-session-limit-application-create

[top]

Creates a per-application session limit.

Input Name	Range	Type	Description
application		string	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application.
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and application.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-application-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-application-delete

[top]

Deletes a per-application session limit.

Input Name	Range	Type	Description
application		string	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application.
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-application-get-iter

[top]

Returns per-application session limits.

Input Name	Range	Type	Description
		session-	Specify the attributes that should be returned. If not present, all

desired-attributes		application-limits-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-application-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-application-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-application-modify

[top]

Modifies a per-application session limit.

Input Name	Range	Type	Description
application		string	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application.
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and application.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-create

[top]

Creates a session default limit.

Input Name	Range	Type	Description

category		session-limit-type	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver
interface		session-if-type	The interface (cli, ontapi, or rest) for this default limit.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and category.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-default-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-delete

[top]

Deletes a session default limit.

Input Name	Range	Type	Description
category		session-limit-type	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver
interface		session-if-type	The interface (cli, ontapi, or rest) for this default limit.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-get-iter

[top]

Returns session default limits.

Input Name	Range	Type	Description
desired-attributes		session-default-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-default-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-default-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-location-create

[top]

Creates a per-location session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace.
location		string	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and location.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-location-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-location-delete

[top]

Deletes a per-location session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace.
location		string	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-location-get-iter

[top]

Returns per-location session limits.

Input Name	Range	Type	Description
desired-attributes		session-location-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		session-location-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

			obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-location-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-location-modify

[top]

Modifies a per-location session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace.
location		string	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and location.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-modify

[top]

Modifies a session default limit.

Input Name	Range	Type	Description
category		session-limit-type	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request

			type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver
interface		session-if-type	The interface (cli, ontapi, or rest) for this default limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and category.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-request-create

[top]

Creates a per-request session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and request type.
request		string	The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-request-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-request-delete

[top]

Deletes a per-request session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
request		string	The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type.

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-request-get-iter

[top]

Returns per-request session limits.

Input Name	Range	Type	Description
desired-attributes		session-request-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		session-request-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-request-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-request-modify

[top]

Modifies a per-request session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	[0..250]	integer optional	The maximum number of concurrent sessions allowed for this interface and request type.
request		string	The name of the request for this limit. A request name of '-default-'

			specifies the default request limit for any request type.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-user-create

[top]

Creates a per-user session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	[0..250]	integer	The maximum number of concurrent sessions allowed for this interface, Vserver, and user.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false
username		string	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Output Name	Range	Type	Description
result		session-user-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-user-delete

[top]

Deletes a per-user session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
username		string	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-user-get-iter

[top]

Returns per-user session limits.

Input Name	Range	Type	Description
desired-attributes		session-user-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-user-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-user-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-user-modify

[top]

Modifies a per-user session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface, Vserver, and user.
username		string	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-vserver-create

[top]

Creates a per-vserver session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	[0..250]	integer	The maximum number of concurrent sessions allowed for this interface and Vserver.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Output Name	Range	Type	Description
result		session-vserver-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-vserver-delete

[top]

Deletes a per-vserver session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-vserver-get-iter

[top]

Returns per-vserver session limits.

Input Name	Range	Type	Description
desired-attributes		session-vserver-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-vserver-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-vserver-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-vserver-modify

[top]

Modifies a per-vserver session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-location-stats-get-iter

[top]

Returns session location statistics.

Input Name	Range	Type	Description
desired-attributes		session-location-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-location-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-location-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-request-stats-get-iter

[top]

Returns session request statistics.

Input Name	Range	Type	Description
desired-attributes		session-request-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-request-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for the

tag		string optional	first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-request-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-running-stats-get-iter

[top]

Returns session running statistics.

Input Name	Range	Type	Description
desired-attributes		session-running-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-running-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-running-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-user-stats-get-iter

[top]

Returns session user statistics.

Input Name	Range	Type	Description
desired-attributes		session-user-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-user-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-user-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-vserver-stats-get-iter

[top]

Returns session vserver statistics.

Input Name	Range	Type	Description
desired-attributes		session-vserver-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		session-	

query		vserver-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-vserver-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **security-session-kill-cli-iter-info**

[top]

Information about the operation that was attempted/performed against security-session object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-session-key		session-running-stats-info	The keys for the security-session object to which the operation applies.

Element definition: **session-application-limits-info**

[top]

Session Application Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

application		string optional	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. Attributes: key, required-for-create, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and application. Attributes: required-for-create, modifiable

Element definition: **session-application-stats-info**

[top]

Session Application Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
application		string optional	The name of the calling application. Attributes: key, required-for-create, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable

max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable

Element definition: **session-default-limits-info**

[top]

Session Default Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
category		session-limit-type optional	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver Attributes: key, required-for-create, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this default limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and category. Attributes: required-for-create, modifiable

Element definition: **session-if-type**

[top]

Session Interface Type

[none]

Element definition: **session-limit-type**

[top]

Session Limit Type

[none]

Element definition: **session-location-limits-info**

[top]

Session Location Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. Attributes: key, optional-for-create, non-modifiable
location		string optional	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and location. Attributes: required-for-create, modifiable

Element definition: **session-location-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	The IPspace from which the client location is seen. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
location		string optional	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, required-for-create, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^64-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable

Element definition: **session-request-limits-info**

[top]

Session Request Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and request type. Attributes: required-for-create, modifiable
request		string optional	The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. Attributes: key, required-for-create, non-modifiable

Element definition: **session-request-stats-info**

[top]

Session Request Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of requests that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, non-modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, non-modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request completed. This is only present when there are no active requests. Attributes: non-creatable, non-modifiable

interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request started. This is only present when there are active requests. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active requests. Attributes: required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, non-modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, non-modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
request		string optional	The name of the request that was issued. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable

Element definition: **session-running-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request started. Attributes: non-creatable, non-modifiable
application		string optional	The name of the calling application. Attributes: key, non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request completed. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that is processing the session. Attributes: key, non-creatable, non-modifiable

ipspace		string optional	The IPspace from which the client location is seen. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took on this session. Attributes: non-creatable, non-modifiable
location		string optional	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, non-creatable, non-modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took on this session. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The name of the node that is processing the session. Attributes: key, non-creatable, non-modifiable
request		string optional	The request input that is currently being handled by the session. Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	A monotonically increasing number for each node that helps make each session uniquely identifiable. Attributes: key, non-creatable, non-modifiable
start-time	**[0..2^31-1]**	integer optional	The start time of the current session. Attributes: key, non-creatable, non-modifiable
state		session-state optional	The state (pending, active, or idle) of the session. The state is 'pending' if it hit a session limit and the session is waiting for another session to end. The state is 'idle' for CLI sessions that are waiting at the command prompt. The state is 'active' if the session is actively working on a request. Attributes: non-creatable, non-modifiable Possible values: • "pending" , • "active" , • "idle"
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received so far on this session. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^32-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable
username		string optional	The name of the authenticated user that originated this request. Attributes: key, non-creatable, non-modifiable
vserver		vserverid optional	The name of the Vserver that originated this request. Attributes: key, non-creatable, non-modifiable

Element definition: **session-user-limits-info**

[top]

Session User Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface, Vserver, and user. Attributes: required-for-create, modifiable
username		string optional	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. Attributes: key, required-for-create, non-modifiable
vserver		vserverid optional	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable

Element definition: **session-user-stats-info**

[top]

Session User Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-	**[0..2^32-**	integer	The maximum number of concurrently active sessions. Attributes:

active	**1]**	optional	required-for-create, modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable
username		string optional	The name of the authenticated user that originated this request. Attributes: key, required-for-create, non-modifiable
vserver		vserverid optional	The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable

Element definition: **session-vserver-limits-info**

[top]

Session Vserver Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and Vserver. Attributes: required-for-create, modifiable
vserver		vserverid optional	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable

Element definition: **session-vserver-stats-info**

[top]

Session Vserver Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable
vserver		vserverid optional	The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable

Element definition: **vserverid** [top]

Vserver Id

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **session-if-type** [top]

Session Interface Type

[none]

Element definition: **session-state** [top]

pending|active|idle Possible values:

- "pending" ,
- "active" ,
- "idle"

[none]

APIs in Category: **security-ssl**

security-ssl-get
security-ssl-get-iter
security-ssl-modify

This is an auto generated category.

security-ssl-get

[top]

Get the attributes of SSL security

Input Name	Range	Type	Description
desired-attributes		vserver-ssl-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		vserver-ssl-info	The attributes of the SSL security.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-ssl-get-iter

[top]

Get the attributes of SSL security

Input Name	Range	Type	Description
desired-attributes		vserver-ssl-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-ssl-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the SSL security object. All SSL security objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		vserver-ssl-info[] optional	The list of attributes of SSL security objects.
next-tag		string optional	Tag for the next call. Not present when there are no more SSL security objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-ssl-modify

[top]

Modify SSL authentication for a Vserver. Only field(s) that are provided will be modified.

Input Name	Range	Type	Description
certificate-authority		string optional	Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true.
certificate-serial-number		string optional	Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true, if you do not specify one it will use the serial number of the default certificate.
client-authentication-enabled		boolean optional	Informs if SSL Client Authentication is enabled.
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true.
ocsp-default-responder		string optional	This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified.
ocsp-enabled		boolean optional	This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration.
ocsp-max-response-age		string optional	This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future.
ocsp-max-response-time-skew		time-interval optional	This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields).
ocsp-override-responder		boolean optional	This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder.
ocsp-responder-timeout		time-interval optional	This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds.
			This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always

ocsp-use-request-nonce		boolean optional	used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack.
server-authentication-enabled		boolean optional	Informs if SSL Server Authentication is enabled.
vserver		string optional	Name of vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **vserver-ssl-info**

[top]

Information about SSL authentication for a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable
certificate-serial-number		string optional	Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable
client-authentication-enabled		boolean optional	Informs if SSL Client Authentication is enabled. Attributes: non-creatable, modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true. Attributes: non-creatable, modifiable

ocsp-default-responder		string optional	This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified. Attributes: non-creatable, modifiable
ocsp-enabled		boolean optional	This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration. Attributes: non-creatable, modifiable
ocsp-max-response-age		string optional	This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future. Attributes: non-creatable, modifiable
ocsp-max-response-time-skew		time-interval optional	This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields). Attributes: non-creatable, modifiable
ocsp-override-responder		boolean optional	This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder. Attributes: non-creatable, modifiable
ocsp-responder-timeout		time-interval optional	This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds. Attributes: non-creatable, modifiable
ocsp-use-request-nonce		boolean optional	This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack. Attributes: non-creatable, modifiable
server-authentication-enabled		boolean optional	Informs if SSL Server Authentication is enabled. Attributes: non-creatable, modifiable
vserver		string optional	Name of vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

APIs in Category: **service-processor**

service-processor-api-service-disable-installed-certificates
service-processor-api-service-enable-installed-certificates
service-processor-api-service-get
service-processor-api-service-modify
service-processor-api-service-renew-internal-certificates
service-processor-asup-config-get
service-processor-asup-config-set
service-processor-asup-invoke
service-processor-auto-configuration-disable
service-processor-auto-configuration-enable
service-processor-auto-configuration-get
service-processor-get
service-processor-get-iter
service-processor-image-get
service-processor-image-modify
service-processor-image-update
service-processor-image-update-progress-get
service-processor-log-allocation-get
service-processor-log-allocation-get-iter
service-processor-network-get
service-processor-network-get-iter
service-processor-network-modify
service-processor-network-modify-iter
service-processor-reboot
service-processor-ssh-add-allowed-addresses
service-processor-ssh-get
service-processor-ssh-

These APIs enable applications to get information about the Service Processor of any node in the cluster or modifying its configuration. A Service Processor (SP) device provides remote management capabilities including console redirection, logging and power control. It also extends AutoSupport by sending additional system event alerts. The AutoSupport settings are used for sending these alerts via email over the SP LAN interface.

remove-allowed-addresses	

service-processor-api-service-disable-installed-certificates

[top]

Disable user-installed certificates for the service processor API service - use auto-generated certificates

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-enable-installed-certificates

[top]

Enable user-installed certificates for the service processor API service

Input Name	Range	Type	Description
client-cert		string	The name of the client certificate.
rootca-cert		string	The names of the root CA certificates.
server-cert		string	The name of the server certificate.
vserver		vserver-name-data-admin	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-get

[top]

Get service processor API service configuration

Input Name	Range	Type	Description
desired-attributes		service-processor-api-service optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		service-processor-api-service	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-modify

[top]

Modify service processor API service configuration

Input Name	Range	Type	Description
is-enabled		boolean optional	Is SP API Service Enabled
limit-access		boolean optional	Only Cluster Members Can Access the Service
port	[49152..65535]	integer optional	SP API Service Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-renew-internal-certificates

[top]

Generate SSL and SSH certificates used for secure communication with the service processor API service

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-asup-config-get

[top]

Returns Service Processor AutoSupport Configuration Information.

Input Name	Range	Type	Description
desired-attributes		service-processor-asup-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		service-processor-asup-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-asup-config-set

[top]

Setup Service Processor AutoSupport Configuration Information.

Input Name	Range	Type	Description
is-enabled		boolean optional	SP AutoSupport Is-enabled state

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-asup-invoke

[top]

Invoke AutoSupport from Specific Service-Processor

Input Name	Range	Type	Description
node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-auto-configuration-disable

[top]

Disable Service Processor Auto-Configuration

Input Name	Range	Type	Description
address-family		sp-ip-address-type	IPv4/IPv6 Address Family

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-auto-configuration-enable

[top]

Enable Service Processor Auto-Configuration

Input Name	Range	Type	Description
address-family		sp-ip-address-type	IPv4/IPv6 Address Family
subnet-name		string	Subnet Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-auto-configuration-get

[top]

Get Service Processor auto-configuration subnet name.

Input Name	Range	Type	Description
desired-attributes		sp-subnet-name-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		sp-subnet-name-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-get

[top]

Get basic information about the device

Input Name	Range	Type	Description
desired-attributes		service-processor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-get-iter

[top]

Get basic information about device of each node in the cluster

Input Name	Range	Type	Description
desired-attributes		service-processor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		service-processor-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		service-processor-info[] optional	The list of attributes of service-processor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more service-processor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

service-processor-image-get

[top]

Get information about installed firmware images

Input Name	Range	Type	Description
desired-attributes		service-processor-image optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
			Is this image primary or backup firmware for the device Possible values:

firmware-image		sp-fw-type	• "primary" - Firmware which the device boots into by default, • "backup" - Firmware which the device boots into if primary fails
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-image	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-image-modify

[top]

Enable or disable automatic firmware update

Input Name	Range	Type	Description
is-autoupdate-enabled		boolean optional	Is firmware autoupdate enabled on the device
node		node-name	Node on which the device is located

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-image-update

[top]

Install new firmware image

Input Name	Range	Type	Description
clear-logs		boolean optional	Clear logs on the device after update. Default value is true
install-baseline-image		boolean optional	Install the version packaged with ONTAP if this parameter is set to true. Otherwise, -package must be used to specify the package to install
node		node-name	Node on which the device is located
package		string optional	Name of the package file containing the firmware to be installed. Not required when -baseline is true
update-type		sp-fw-update-type optional	Type of firmware update to be performed

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-image-update-progress-get

[top]

Get firmware update progress

Input Name	Range	Type	Description
desired-attributes		service-processor-image-update-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-image-update-progress-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-log-allocation-get

[top]

Get the Service Processor log allocation map.

Input Name	Range	Type	Description
desired-attributes		service-processor-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The host node name where the log files are located
remote-node		string	The node name the log files are collected from

Output Name	Range	Type	Description
attributes		service-processor-log-info	The attributes of the service-processor.

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-log-allocation-get-iter

[top]

Get the Service Processor log allocation map of each node in the cluster.

Input Name	Range	Type	Description
desired-attributes		service-processor-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		service-processor-log-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		service-processor-log-info[] optional	The list of attributes of service-processor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more service-processor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

service-processor-network-get

[top]

Get the network configuration

Input Name	Range	Type	Description
address-type		sp-ip-address-type	Network configuration that is being addressed i.e. IPv4 or IPv6 Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
desired-		service-processor-network-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-network-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-network-get-iter

[top]

Get the network configuration of device of each node in the cluster

Input Name	Range	Type	Description
desired-attributes		service-processor-network-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		service-processor-network-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		service-processor-network-info[] optional	The list of attributes of service-processor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more service-processor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

service-processor-network-modify

[top]

Modify the network configuration

Input Name	Range	Type	Description
address-type		sp-ip-address-type	Network configuration that is being addressed i.e. IPv4 or IPv6 Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
dhcp		sp-dhcp-status optional	DHCP status for the configuration Possible values: • "v4" - DHCP for IPv4, • "none" - DHCP not enabled, • "v6" - DHCP for IPv6
gateway-ip-address		ip-address optional	IP address of the network gateway
ip-address		ip-address optional	IP address currently held by the device
is-enabled		boolean optional	Is this address configuration enabled
netmask		ip-address optional	Netmask for the device
node		node-name	Node on which the device is located
prefix-length	**[0..64]**	integer optional	Prefix length of subnet mask

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-network-modify-iter

[top]

Modify the network configuration of device of each node in the cluster

Input Name	Range	Type	Description
attributes		service-processor-network-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple service-processor objects match a given query. If set to true, the API will continue modifying the next matching service-processor even when modification of a previous service-processor fails. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set,

max-failure-count	**[1..2^32-1]**	integer optional	the API will continue modifying the next matching service-processor even when the modification of a previous matching service-processor fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		service-processor-network-info	If modifying a specific service-processor, this input element must specify all keys. If modifying service-processor objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of service-processor objects (just keys) that were not modified due to some error. If set to false, the list of service-processor objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of service-processor objects (just keys) that were successfully updated. If set to false, the list of service-processor objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		service-processor-network-modify-iter-info[] optional	Information about service-processor objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching service-processor objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of service-processor objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of service-processor objects that matched the query and were successfully updated.
success-list		service-processor-network-modify-iter-info[] optional	The service-processor objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

service-processor-reboot

[top]

Reboot the Service Processor

Input Name	Range	Type	Description
firmware-image		sp-fw-type optional	Image to boot upon reboot. Default is primary
node		node-name	Node on which the device is located

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-ssh-add-allowed-addresses

[top]

Add IP addresses that are allowed to access the Service Processor

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[]	Public IP Addresses

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-ssh-get

[top]

Return SSH security information about the Service Processor.

Input Name	Range	Type	Description
desired-attributes		service-processor-ssh-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		service-processor-ssh-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-ssh-remove-allowed-addresses

[top]

Remove IP addresses that are allowed to access the Service Processor

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[]	Public IP Addresses

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-processor-api-service**

[top]

Service Processor API service type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is SP API Service Enabled Attributes: non-creatable, modifiable
limit-access		boolean optional	Only Cluster Members Can Access the Service Attributes: non-creatable, modifiable

port	**[49152..65535]**	integer optional	SP API Service Port Attributes: non-creatable, modifiable

Element definition: **service-processor-asup-info**

[top]

Service Processor AutoSupport Configuration Applies within the Cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	SP AutoSupport Is-enabled state Attributes: non-creatable, modifiable

Element definition: **service-processor-image**

[top]

Service processor firmware information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
firmware-image		sp-fw-type optional	Is this image primary or backup firmware for the device Attributes: key, non-creatable, non-modifiable Possible values: • "primary" - Firmware which the device boots into by default, • "backup" - Firmware which the device boots into if primary fails
is-autoupdate-enabled		boolean optional	Is firmware autoupdate enabled on the device Attributes: non-creatable, non-modifiable
is-current		boolean optional	Is device currently booted from this image Attributes: non-creatable, non-modifiable
last-update-status		sp-pass-fail optional	Did last firmware install on the device pass or fail Attributes: non-creatable, non-modifiable Possible values: • "failed" - Operation failed, • "passed" - Operation was successful
		node-	

node		name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
status		sp-fw-status optional	Status of this firmware image Attributes: non-creatable, non-modifiable Possible values: • "installed" - Firmware installed and in normal state, • "corrupt" - Firmware is corrupt, • "updating" - Firmware is undergoing a manual update, • "auto_updating" - Firmware is undergoing an automatic update, • "none" - Firmware status not known
type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC
version		string optional	Firmware version in this image Attributes: non-creatable, non-modifiable

Element definition: **service-processor-image-update-progress-info**

[top]

Service processor image update progress information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
end-time		datetime optional	Time when the firmware finished (if complete, else empty) Attributes: non-creatable, non-modifiable
is-in-progress		boolean optional	Is a firmware update in progress Attributes: non-creatable, non-modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
percent-done	**[0..100]**	integer optional	Current progress of the firmware update percentage Attributes: non-creatable, non-modifiable
start-time		datetime optional	Time when the firmware update started Attributes: non-creatable, non-modifiable

Element definition: **service-processor-info**

[top]

Service processor information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
device-revision		string optional	Device revision. Applicable for RLM only Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware version installed on the device Attributes: non-creatable, non-modifiable
ip-address		ip-address[] optional	Public IP addresses of the device Attributes: non-creatable, non-modifiable
is-autoupdate-enabled		boolean optional	Is firmware autoupdate enabled for the device Attributes: non-creatable, non-modifiable
is-ip-configured		boolean optional	Is network configured on the device to have at least one public IP address Attributes: non-creatable, non-modifiable
mac-address		mac-address optional	MAC address of the device Attributes: non-creatable, non-modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
part-num		string optional	Part number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable
serial-num		string optional	Serial number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable
status		sp-status-type optional	Current status of the device Attributes: non-creatable, non-modifiable Possible values: • "online" - Device is up and running fine, • "offline" - Device is out of communication, • "sp_daemon_offline" - Daemon which communicates with the device is not running, • "node_offline" - Node that hosts the device is out of communication, • "degraded" - Node that hosts the device is missing heartbeat signals from the device, • "rebooting" - Device is rebooting, • "unknown" - Device status could not be determined, • "updating" - BMC is updating
type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC

Element definition: **service-processor-log-info**

[top]

Service Processor Log Allocation Info. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	The host node name where the log files are located Attributes: key, non-creatable, non-modifiable
remote-node		string optional	The node name the log files are collected from Attributes: key, non-creatable, non-modifiable
seqlist	**[0..2^32-1]**	integer[] optional	The sequence numbers of the log files Attributes: non-creatable, non-modifiable

Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-type		sp-ip-address-type optional	Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
device-type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC
dhcp		sp-dhcp-status optional	DHCP status for the configuration Attributes: non-creatable, modifiable Possible values: • "v4" - DHCP for IPv4, • "none" - DHCP not enabled, • "v6" - DHCP for IPv6

gateway-ip-address		ip-address optional	IP address of the network gateway Attributes: non-creatable, modifiable
ip-address		ip-address optional	IP address currently held by the device Attributes: non-creatable, modifiable
is-enabled		boolean optional	Is this address configuration enabled Attributes: non-creatable, modifiable
is-ipv6-ra-enabled		boolean optional	IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable
link-local-ip-address		ip-address optional	Link local IP address Attributes: non-creatable, non-modifiable
link-status		sp-link-status optional	Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values: • "up" - Link is connected, • "down" - Link is severed, • "disabled" - Link has been disabled by user, • "unknown" - Link status is no known
mac-address		mac-address optional	MAC address of the device Attributes: non-creatable, non-modifiable
netmask		ip-address optional	Netmask for the device Attributes: non-creatable, modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
prefix-length	**[0..64]**	integer optional	Prefix length of subnet mask Attributes: non-creatable, modifiable
router-ip-address		ip-address optional	Router assigned IP address Attributes: non-creatable, non-modifiable
setup-failure-reason		sp-setup-errcodes optional	SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values: • "success" - No error, • "subnet_out_of_address" - Run out of IP address, • "invalid_subnet" - Invalid subnet, • "other_error" - Other errors
setup-status		sp-setup-status optional	SP network configuration status Attributes: non-creatable, non-modifiable Possible values: • "not_setup" - Configuration not done, • "succeeded" - Configuration succeeded, • "in_progress" - Configuration in progress, • "failed" - Configuration failed
status		sp-status-type optional	Current status of the device Attributes: non-creatable, non-modifiable Possible values: • "online" - Device is up and running fine, • "offline" - Device is out of communication, • "sp_daemon_offline" - Daemon which communicates with the device is not running, • "node_offline" - Node that hosts the device is out of communication, • "degraded" - Node that hosts the device is missing heartbeat signals from the device,

			"rebooting" - Device is rebooting, • "unknown" - Device status could not be determined, • "updating" - BMC is updating
subnet-name		string optional	Subnet Name Attributes: non-creatable, non-modifiable

Element definition: **service-processor-network-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against service-processor object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
service-processor-key		service-processor-network-info	The keys for the service-processor object to which the modify operation applies.

Element definition: **service-processor-ssh-info**

[top]

Service Processor SSH Allowed IP addresses Configuration applied across the Cluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allowed-addresses		ip-and-mask[] optional	List of Allowed IP Addresses. Attributes: non-creatable, non-modifiable

Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,
- "v6" - DHCP for IPv6

[none]

Element definition: **sp-fw-type** [top]

Choices for the two firmware images installed on a SP/RLM device Possible values:

- "primary" - Firmware which the device boots into by default,
- "backup" - Firmware which the device boots into if primary fails

[none]

Element definition: **sp-fw-update-type** [top]

Possible choices for a firmware update type Possible values:

- "serial_full" - Replace the fimrware completely with new package using package interface.,
- "serial_differential" - Replace only parts of firmware which have changed in new package using package interface.,
- "network_full" - Replace the fimrware completely with new package using network interface.,
- "full" - Deprecated version of serial-full.,
- "differential" - Deprecated version of serial-differential.

[none]

Element definition: **sp-ip-address-type** [top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

Element definition: **sp-subnet-name-info** [top]

Service Processor subnet name that provides IP resources for auto-configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
subnet-name-v4		string optional	IPv4 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable
subnet-name-v6		string optional	IPv6 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable

Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **mac-address** [top]

MAC Address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-type		sp-ip-address-type optional	Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
device-type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC
dhcp		sp-dhcp-status optional	DHCP status for the configuration Attributes: non-creatable, modifiable Possible values: • "v4" - DHCP for IPv4, • "none" - DHCP not enabled, • "v6" - DHCP for IPv6
gateway-ip-address		ip-address optional	IP address of the network gateway Attributes: non-creatable, modifiable
ip-address		ip-address optional	IP address currently held by the device Attributes: non-creatable, modifiable
is-enabled		boolean optional	Is this address configuration enabled Attributes: non-creatable, modifiable
is-ipv6-ra-enabled		boolean optional	IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable
link-local-ip-address		ip-address optional	Link local IP address Attributes: non-creatable, non-modifiable
link-status		sp-link-status	Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values: • "up" - Link is connected,

		optional	"down" - Link is severed, • "disabled" - Link has been disabled by user, • "unknown" - Link status is no known
mac-address		mac-address optional	MAC address of the device Attributes: non-creatable, non-modifiable
netmask		ip-address optional	Netmask for the device Attributes: non-creatable, modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
prefix-length	**[0..64]**	integer optional	Prefix length of subnet mask Attributes: non-creatable, modifiable
router-ip-address		ip-address optional	Router assigned IP address Attributes: non-creatable, non-modifiable
setup-failure-reason		sp-setup-errcodes optional	SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values: • "success" - No error, • "subnet_out_of_address" - Run out of IP address, • "invalid_subnet" - Invalid subnet, • "other_error" - Other errors
setup-status		sp-setup-status optional	SP network configuration status Attributes: non-creatable, non-modifiable Possible values: • "not_setup" - Configuration not done, • "succeeded" - Configuration succeeded, • "in_progress" - Configuration in progress, • "failed" - Configuration failed
status		sp-status-type optional	Current status of the device Attributes: non-creatable, non-modifiable Possible values: • "online" - Device is up and running fine, • "offline" - Device is out of communication, • "sp_daemon_offline" - Daemon which communicates with the device is not running, • "node_offline" - Node that hosts the device is out of communication, • "degraded" - Node that hosts the device is missing heartbeat signals from the device, • "rebooting" - Device is rebooting, • "unknown" - Device status could not be determined, • "updating" - BMC is updating
subnet-name		string optional	Subnet Name Attributes: non-creatable, non-modifiable

Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,

- "v6" - DHCP for IPv6

[none]

Element definition: **sp-fw-status**

[top]

Possible states the firmware of a SP/RLM device can be in Possible values:

- "installed" - Firmware installed and in normal state,
- "corrupt" - Firmware is corrupt,
- "updating" - Firmware is undergoing a manual update,
- "auto_updating" - Firmware is undergoing an automatic update,
- "none" - Firmware status not known

[none]

Element definition: **sp-ip-address-type**

[top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

Element definition: **sp-link-status**

[top]

Possible states for the underlying physical link for a network insterface Possible values:

- "up" - Link is connected,
- "down" - Link is severed,
- "disabled" - Link has been disabled by user,
- "unknown" - Link status is no known

[none]

Element definition: **sp-pass-fail**

[top]

Possible completion states of a task Possible values:

- "failed" - Operation failed,
- "passed" - Operation was successful

[none]

Element definition: **sp-setup-errcodes**

[top]

SP network setup error codes Possible values:

- "success" - No error,
- "subnet_out_of_address" - Run out of IP address,
- "invalid_subnet" - Invalid subnet,
- "other_error" - Other errors

[none]

Element definition: **sp-setup-status**

[top]

SP network setup status Possible values:

- "not_setup" - Configuration not done,
- "succeeded" - Configuration succeeded,
- "in_progress" - Configuration in progress,
- "failed" - Configuration failed

[none]

Element definition: **sp-status-type**

[top]

Possible states a Service Processor or Remote LAN Module can be in Possible values:

- "online" - Device is up and running fine,
- "offline" - Device is out of communication,
- "sp_daemon_offline" - Daemon which communicates with the device is not running,
- "node_offline" - Node that hosts the device is out of communication,
- "degraded" - Node that hosts the device is missing heartbeat signals from the device,
- "rebooting" - Device is rebooting,
- "unknown" - Device status could not be determined,
- "updating" - BMC is updating

[none]

Element definition: **sp-type**

[top]

Types of remote management device that can be found in a node Possible values:

- "sp" - Service Processor,
- "none" - NONE,
- "bmc" - BMC

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **mac-address** [top]

MAC Address

[none]

Element definition: **node-name** [top]

The node's name

[none]

APIs in Category: **ses**

storage-shelf-bay-list-info
storage-shelf-environment-list-info
storage-shelf-get-channel-list
storage-shelf-get-shelf-info
storage-shelf-get-shelf-list
storage-shelf-list-info
storage-shelf-set-led-state
storage-shelf-update-fw

storage-shelf-bay-list-info

[top]

Returns information about storage shelf bays and ports for a selected number of shelves, or optionally all shelves connected to the storage controller.

Input Name	Range	Type	Description
channel-name		string optional	The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples: 8a, switch:5
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching shelves in the cluster will be returned. This is the storage system name the command will be executed on.
shelf-id	**[0..99]**	integer optional	shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported and an error will be returned.

Output Name	Range	Type	Description
shelf-bay-list		shelf-bay-list-info[]	Each instance of shelf-list contains available bay information on a shelf.

Errno	Description
EINTERNALERROR	
ECHANNELNOTFOUND	
ESHELFNOTFOUND	
EINVALIDINPUTERROR	

storage-shelf-environment-list-info

[top]

Returns the environmental information for a selected number of shelves, or optionally all shelves connected to the storage controller.

Input Name	Range	Type	Description
channel-name		string optional	Get environment information for shelves on this channel. shelf-id parameter can be specified to request data on a single shelf. If a channel-name is not specified, then data on all shelves on all channels will be returned. If an invalid channel-name is specified, then error code ECHANNELNOTFOUND will be returned.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.
			Get environment information for the specified shelf-id on the specified channel-name. This parameter requires channel-name parameter as well.

shelf-id	**[0..99]**	integer optional	If shelf-id is specified without channel-name then the error code EINVALIDINPUTERROR will be returned. If shelf-id is not specified and a channel-name is specified, then data for all shelves on the channel-name is returned. If an invalid shelf-id is specified, then error code ESHELFNOTFOUND will be returned.

Output Name	Range	Type	Description
shelf-environ-channel-list		shelf-environ-channel-info[]	List of channels and associated environment information on the shelves in the channel. Only on-line channels that have shelves attached will be reported.

Errno	Description
EINTERNALERROR	
ECHANNELNOTFOUND	
ESHELFNOTFOUND	
EINVALIDINPUTERROR	

storage-shelf-get-channel-list

[top]

Get the list of SES channels present on this system.

Output Name	Range	Type	Description
channel-list		channel-info[]	The channel-list is a list of the names of channels to which enclosure services are connected. These channel names can be used by other commands, including storage-shelf-set-led-state.

storage-shelf-get-shelf-info

[top]

This returns information about an identified shelf. The information is the number of bays present (bay-count), and which shelf bays have drives (bay-list). Shelf bays are numbered from 0 to bay-count minus 1. Shelf bay 0 is always on the right when looking at the front of the shelf. Incidentally, the bay-list may be empty indicating the absence of any drives. However, there are some shelf designs which require a disk drive in bay 0 or 1 for any SES functionality to operate (e.g., DS14 and DS14-Mk2-FC). In these cases, shelves without drives in bay 0 or 1 will not be listed.

Input Name	Range	Type	Description
channel-name		string	The adapter number or switch name and theport number (together, called the channel). Examples are 8a and switch:5
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name name the command will be executed on.
shelf-id		integer	The shelf id specifies the shelf for which a list of disk bays is desired. Range : [0..2^24-1]

Output Name	Range	Type	Description
bay-count	**[0..255]**	integer optional	Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state. Range : [0..255]
bay-list		bay-info[]	A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements.
disk-count	**[0..255]**	integer optional	The total number of disks that are present in the shelf.
firmware-rev-A		string optional	Shelf Module A firmware revision.
firmware-rev-B		string optional	Shelf Module B firmware revision.

firmware-revision		string	Shelf firmware revision.
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
shelf-type		string optional	Shelf module type. Some examples are: "esh2", and "at-fcx".

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	

storage-shelf-get-shelf-list

[top]

Get the list of SES shelves present on a channel. Use storage-shelf-get-channel-list to determine all the channels to which shelves are connected. Note that some shelves may be connected to multiple channels.

Input Name	Range	Type	Description
channel-name		string	The adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5.

Output Name	Range	Type	Description
shelf-list		shelf-id-info[]	The shelf-list is list of the shelf-ids of the shelves connected to the supplied channel. These shelf-ids can be used by other commands, including storage-shelf-set-led-state. This list may be empty if there are no shelves attached to the specified channel.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	

storage-shelf-list-info

[top]

This interface returns information about one or more shelves.

Input Name	Range	Type	Description
channel-name		string optional	The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples are 8a and switch:5
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.
shelf-id	[0..99]	integer optional	shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported. In such case information for all shelves on all channels will be presented.

Output Name	Range	Type	Description
shelf-list		shelf-info[]	Each instance of shelf-list contains all available information on a shelf hub. This can be empty if there are no shelves attached or if shelves do not support hubs. Also a partner shelf can be reported.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	

Errno	Description
EINVALIDINPUTERROR	

storage-shelf-set-led-state

[top]

Set or clear the LED for a disk, shelf of disks or loop of shelves. LEDs to affect can be specified as: {channel-name}, {channel-name, shelf-id}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay, lun}.

Input Name	Range	Type	Description
action		string required	This specifies the action to apply. Possible values are: on, and off. on: Turn the LED(s) on indefinitely. off: Turn the LED(s) off.
channel-name		string	The channel to which the shelf or drive LED to be affected is connected. A channel-name is the adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5.
duration		integer optional	This parameter allows the caller to specify the duration (in seconds) that the action will be applied. Note that the action 'on' is indefinite, while 'test' uses duration. 'blink' also uses duration.
identify		boolean optional	This parameter allows the caller to specify the identify LED. The default is for the command to affect the fault LED. Not all disks have identify LEDs. In that case, the identify option is ignored and the fault LED is affected.
lun		integer optional	Some targets have a logical unit number. In that case, the lun will be required to uniquely specify the LED to affect. Range : [0..255]
shelf-bay		integer optional	If present, the shelf-bay indicates the specific drive where the LED affected resides. If shelf-id is supplied but shelf-bay is not, then the LEDs for all drives in the shelf will be affected. Range : [0..255]
shelf-id		integer optional	If present, the shelf-id indicates which shelf has the drive or drives where the LEDs to affect reside. Range : [0..2^24-1]

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	

storage-shelf-update-fw

[top]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision. The firmware revision on the shelves can be monitored via the storage-shelf-get-shelf-info API. NOT IMPLEMENTED YET.

Input Name	Range	Type	Description
channel-name		string optional	If present, will only update firmware on all shelves (or a single shlef depending on shelf-id) on the given channel. If not present, then all shelves on all channels are updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1.
shelf-id		string optional	If present, will only update firmware on the given shelf on specified channel. If not present, and a channel-name is specified, then all shelves on the channel will be updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

Name	Range	Type	Description
drawer-bay-slot-number		integer optional	Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254]
drawer-number		integer optional	Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254]
lun		integer optional	The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255]
shelf-bay		integer	A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255]

Element definition: **channel-info**

[top]

Interconnect channel information

Name	Range	Type	Description
channel-name		ha-ic-channel optional	High-availability interconnect channel name. Attributes: non-creatable, non-modifiable Possible values: • "kstat" - HA Interconnect KSTAT Channel, • "ofw" - HA Interconnect OFW Channel, • "kill" - HA Interconnect KILL Channel, • "wafl" - HA Interconnect WAFL NV Channel, • "raid" - HA Interconnect RAID NV Channel, • "misc" - HA Interconnect MISC NV Channel, • "stream0" - HA Interconnect STREAM0 Channel, • "stream1" - HA Interconnect STREAM1 Channel, • "stream2" - HA Interconnect STREAM2 Channel, • "stream3" - HA Interconnect STREAM3 Channel, • "drsom" - HA Interconnect MCC DRSOM Channel, • "drckill" - HA Interconnect MCC DRC KILL Channel, • "control" - HA Interconnect CONTROL Channel, • "sldiag" - HA Interconnect SLDIAG Channel, • "traffic" - HA Interconnect TRAFFIC Channel, • "hb" - HA Interconnect HB Channel, • "ftfs" - FTFS PMEM Channel, • "stream4" - HA Interconnect STREAM4 Channel, • "stream5" - HA Interconnect STREAM5 Channel, • "stream6" - HA Interconnect STREAM6 Channel, • "stream7" - HA Interconnect STREAM7 Channel, • "wafl1" - HA Interconnect WAFL1 NV Channel, • "wafl2" - HA Interconnect WAFL2 NV Channel, • "wafl3" - HA Interconnect WAFL3 NV Channel, • "wafl4" - HA Interconnect WAFL4 NV Channel, • "wafl5" - HA Interconnect WAFL5 NV Channel, • "wafl6" - HA Interconnect WAFL6 NV Channel, • "wafl7" - HA Interconnect WAFL7 NV Channel
channel-state		ha-ic-channel-state optional	High-availability interconnect channel state. Attributes: non-creatable, non-modifiable Possible values: • "connecting" - HA Interconnect Entity Connecting State, • "established" - HA Interconnect Entity Established State, • "disconnecting" - HA Interconnect Entity Disconnecting State, • "disconnected" - HA Interconnect Entity Disconnected State, • "unknown" - HA Interconnect Entity Unknown State
handle	**[0..2^64-1]**	integer optional	Remote entity handle associated with the channel. Attributes: non-creatable, non-modifiable
ipaddress		string optional	IP address associated with the channel. Attributes: non-creatable, non-modifiable

link-number		string optional	Link number on which the channel is established. Attributes: non-creatable, non-modifiable
port-name		string optional	Port name on which the channel is established. Attributes: non-creatable, non-modifiable
transport		ha-ic-transport optional	Transport type of the channel. Attributes: non-creatable, non-modifiable Possible values: • "infiniband" - HA Interconnect Infiniband Transport, • "fcvi" - HA Interconnect FCVI Transport, • "mvia" - HA Interconnect M-VIA Transport, • "unknown" - HA Interconnect Unknown Transport, • "iwarp" - HA Interconnect iWARP Transport, • "roce" - HA Interconnect RoCE Transport

Element definition: **shelf-bay-list-info**

[top]

Bay and port information on a shelf module.

Name	Range	Type	Description
channel-name		string	The channel the shelf (hub) is attached to. Example: 0c.
module		string	The shelf module attachment. Possible values: "a", "b".
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
port-list		shelf-bay-port-info[] optional	Shelf bay specific information.
shelf-id	**[0..99]**	integer	The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node.
shelf-name		string	Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1.
shelf-state		string	Current state of the shelf. Possible values are: "no_status", "init_required", "online", "missing", "failed", "unknown".
shelf-type		string	Shelf module type. Possible values: "edm", "vem", "esp", "lrc", "esh", "esh2", "esh4", "eshfx", "eshtx", "emu", "efh", "at-fc", "at-fc2", "at-fcx", "at-fcx2", "sas", "esas", "sas-fc", "iom3", "iom6", "iom6e".
shelf-uid		string	Shelf unique identifier that distinguishes it from other shelves manufactured. Example: 50:05:0c:c0:02:10:64:26.

Element definition: **shelf-environ-channel-info**

[top]

Shelf environment information.

Name	Range	Type	Description
channel-name		string	Storage controller channel the shelf is connected to.
is-channel-monitor-enabled		boolean	Indicates whether monitoring is enabled on this channel.
is-shelf-channel-failure		boolean	Indicates whether any shelves on this channel have experienced a failure.
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
shelf-environ-channel-address		shelf-environ-channel-address-map[] optional	A list of all the shelf assigned addresses assigned on this channel.
shelf-environ-shelf-list		shelf-environ-shelf-info[]	List of shelves in the channel and associated environment information.
shelves-present	**[0-**	integer	Number of shelves present on this channel.

	99]		

Element definition: **shelf-id-info**

[top]

A list of shelf-ids that can be used in other storage-shelf interface calls.

Name	Range	Type	Description
shelf-id		integer	The shelf id itself. shelf-id's are only unique within a particular channel. An example shelf-id is 1. A channel-name and shelf-id pair are required to uniquely identify a shelf on a system. Range : [0..2^24-1]

Element definition: **shelf-info**

[top]

Describes a shelf.

Name	Range	Type	Description
channel-name		string	The channel/port-number the shelf (hub) is attached to. If it is the partner node that is being reported, the value will be shown as "PARTNER". Examples: "0c" or "PARTNER".
firmware-rev-A		string optional	Shelf Module A firmware revision. When the channel-name field is "PARTNER" this field will not be present.
firmware-rev-B		string optional	Shelf Module B firmware revision. When the channel-name field is "PARTNER" this field will not be present.
module		string	The shelf module attachment. Possible values are: "a", "b".
module-state		string optional	Current state of the IO module attached to the shelf port (if any). Possible values are: "no_status", "ok", "missing", "transport error", "critical", "unreachable", "unknown".
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
phy-expander-list		phy-expander-info[] optional	Each instance of phy-expander-list contains PHY (physical layer) expander information about each port. This applies to direct attached shelves with SAS modules only.
port-hub-list		port-hub-info[] optional	Each instance of port-hub-list contains hub information about each port. This applies to shelves with ESH modules only.
shelf-bay-info		shelf-bay-info optional	Detailed information on populated shelf bays. When the channel-name field is "PARTNER" this field will not be present.
shelf-id	**[0..99]**	integer	The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node.
shelf-name		string	Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1.
shelf-state		string	Current state of the shelf. Possible values are: "no status", "init required", "online", "missing", "unknown".
shelf-type		string	Shelf module type. Some examples are: "esh2", and "at-fcx".
shelf-uid		string	Similar to serial number, this is the shelf unique identifier that distinguishes it from any other shelf manufactured. Example: 50:05:0c:c0:02:10:64:26.
termination-switch		string optional	State of the termination switch on the shelf. Possible values are: "on", "off" and "n/a".

Element definition: **ha-ic-channel**

[top]

kstat|ofw|kill|wafl|raid|misc|stream0|stream1|stream2|stream3|drsom|drckill|control|sldiag|traffic|hb|ftfs|stream4|stream5|stream6|stream7|wafl1|wafl2|wafl3|wafl4|wafl5|wafl6|wafl7
Possible values:

- "kstat" - HA Interconnect KSTAT Channel,
- "ofw" - HA Interconnect OFW Channel,
- "kill" - HA Interconnect KILL Channel,

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel,
- "stream0" - HA Interconnect STREAM0 Channel,
- "stream1" - HA Interconnect STREAM1 Channel,
- "stream2" - HA Interconnect STREAM2 Channel,
- "stream3" - HA Interconnect STREAM3 Channel,
- "drsom" - HA Interconnect MCC DRSOM Channel,
- "drckill" - HA Interconnect MCC DRC KILL Channel,
- "control" - HA Interconnect CONTROL Channel,
- "sldiag" - HA Interconnect SLDIAG Channel,
- "traffic" - HA Interconnect TRAFFIC Channel,
- "hb" - HA Interconnect HB Channel,
- "ftfs" - FTFS PMEM Channel,
- "stream4" - HA Interconnect STREAM4 Channel,
- "stream5" - HA Interconnect STREAM5 Channel,
- "stream6" - HA Interconnect STREAM6 Channel,
- "stream7" - HA Interconnect STREAM7 Channel,
- "wafl1" - HA Interconnect WAFL1 NV Channel,
- "wafl2" - HA Interconnect WAFL2 NV Channel,
- "wafl3" - HA Interconnect WAFL3 NV Channel,
- "wafl4" - HA Interconnect WAFL4 NV Channel,
- "wafl5" - HA Interconnect WAFL5 NV Channel,
- "wafl6" - HA Interconnect WAFL6 NV Channel,
- "wafl7" - HA Interconnect WAFL7 NV Channel

[none]

Element definition: **ha-ic-channel-state**

[top]

connecting|established|disconnecting|disconnected|unknown Possible values:

- "connecting" - HA Interconnect Entity Connecting State,
- "established" - HA Interconnect Entity Established State,
- "disconnecting" - HA Interconnect Entity Disconnecting State,
- "disconnected" - HA Interconnect Entity Disconnected State,
- "unknown" - HA Interconnect Entity Unknown State

[none]

Element definition: **ha-ic-transport**

[top]

infiniband|fcvi|mvia|unknown|iwarp|roce Possible values:

- "infiniband" - HA Interconnect Infiniband Transport,
- "fcvi" - HA Interconnect FCVI Transport,
- "mvia" - HA Interconnect M-VIA Transport,
- "unknown" - HA Interconnect Unknown Transport,
- "iwarp" - HA Interconnect iWARP Transport,
- "roce" - HA Interconnect RoCE Transport

[none]

Element definition: **phy-expander-info**

[top]

Expander PHY (physical layer) information of an individual port.

Name	Range	Type	Description
bay-number	**[0..99]**	integer optional	Bay port number. Unique bay-number for each type of phy-type. Present when multiple phy's for a phy-type exist in the shelf, such as phy-type "disk", "P0", "P1".
crc-error-count	**[0..2^32-1]**	integer	This field presents the number of CRC errors that have been seen in any address or data frames. The value will be the count kept by the expander since either power-on or since the counts have been reset.
dongle-data		dongle-info optional	dongle information, if there's a dongle installed. Will be missing if not supported or not available. Present for drive phy only.
invalid-dword-count	**[0..2^32-1]**	integer	The number of invalid double words seen outside of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset.
link-rate		string optional	If port-state is "ok", then this is a floating number, representing SAS-1.1 defined negotiated link rate value for the phy in Gb/s. Example: 3.0. For all other port states, this field will not be available.
loss-dword-count	**[0..2^32-1]**	integer	This field presents the number of times the phy has lost double-word synchronization and restarted the link reset sequence of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset.
pathway-timeout	**[0..2^32-1]**	integer	This field the partial pathway timeout value, in microseconds, being used for the phy.
phy-change-count	**[0..2^32-1]**	integer	This field the number of times this logical phy has changed state. This count increments when the logical phy transitions from disabled to enabled. This count also increments when the logical phys transitions from enabled to disabled. The value will be the count kept by the expander since either power-on or since the counts have been reset.
phy-number	**[0..99]**	integer optional	PHY number. Unique phy-number in the shelf, regardless of phy-type.
phy-power-status		string optional	Current power status. Possible values: "on", "off". Will be missing if not supported or not available. Present for drive phy only.
phy-reset-problem	**[0..2^32-1]**	integer	This field presents the number of times the phy reset sequence has failed. The value will be the count kept by the expander since either power-on or since the counts have been reset.
phy-state		string optional	State of the phy. Possible values: "rate_unknown", "disabled", "speed_negotiation_failed", "sata_oob_failed", "1.5_gbps", "3.0_gbps", "6.0_gbps", "12.0_gbps", "state_unknown",
phy-type		string optional	PHY type. Possible values: "disk", "p0", "p1", "v255", "v99".
port-id		string	Possible values are: port id in range [0..19] or "in0", "in1", "in2", "in3", "out0", "out1", "out2", "out3", representing one of the input or output ports.
port-state		string	Current port state. Possible values are: "ok", "unkwn_lnk", "unused", "unkwn", "empty", "dis_man", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "dis_resv", "dis_unusd", "unknown", "no_signal",
power-cycle-count	**[0..255]**	integer optional	This field presents the number of times the driver has been power cycled via this phy. Will be missing if not supported or not available. Present for drive phy only.
release-count	**[0..255]**	integer optional	This field presents the number of times the driver has been released (unreserved) via this phy. Will be missing if not supported or not available. Present for drive phy only.
reserve-count	**[0..255]**	integer optional	This field presents the number of times the driver has been reserved via this phy. Will be missing if not supported or not available. Present for drive phy only.
running-disparity-count	**[0..2^32-1]**	integer	The number of Dwords with a running disparity error seen outside the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset.

Element definition: **port-hub-info**

[top]

Hub information for an individual port.

Name	Range	Type	Description
clock-delta	**[-2^31..2^31-1]**	integer	The clock delta between this port in respect to ESH clock and other ports in the ESH.
disk-bay	**[0..23]**	integer optional	If port-id is "in", "out", "aux1" or "aux2" then this is not populated, otherwise, it represents the shelf bay that the disk resides in.
insert-count	**[0..2^32-1]**	integer	Number of times this port has been inserted into the loop.
invalid-crc-count	**[0..2^32-1]**	integer	Number of times this port has seen a CRC error.
invalid-word-count	**[0..2^32-1]**	integer	Number of times this port has seen invalid FC-AL words transmitted.
lip-count	**[0..2^32-1]**	integer optional	Lip count, number of times loop initialization primitive has been generated. This field is not available on all shelf modules.
loop-up-count	**[0..2^32-1]**	integer	Number of times this port has seen the loop come up/transition to up.
port-id		string	Possible values are: port number in the range of 0 to 255 or "in", "out", "aux1" or "aux2" representing input, output or one of auxiliary ports. This is the same as FCAL ALPA for the port.
port-state		string	Current port state. Possible values are: "ok", "empty", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "unknown", "term-err", "term", "autoterm".
stall-count	**[0..2^32-1]**	integer	Number of times this port exceeded the OPN/CLS maximum threshold.
utilization-percentage	**[0..100]**	integer	Relative utilization of this port vs. other ports in the ESH.

Element definition: **shelf-bay-info**

[top]

Shelf bay information.

Name	Range	Type	Description
bay-count	**[0..255]**	integer optional	Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state.
bay-list		bay-info[]	A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements.

Element definition: **shelf-bay-port-info**

[top]

Shelf bay port specific information.

Name	Range	Type	Description
bay-no	**[0..23]**	integer optional	Disk bay number or port number, if applicable. In some instances bay numbers do apply and will not be present. An example is an ESH shelf with a single "in" and a single "out" port.
disk-name		string optional	if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be the disk name. Otherwise the field will be missing.
disk-uid		string optional	if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be UID of the disk. Otherwise the field will be missing.
port-designator		string optional	Shelf bay port designator. Possible values: "in", "out", "aux", "sqr", "cir", "sil", "hi_ho", "a_to_b", "b_to_a", "disk_bay" and "dcm#.#" where the the first # ranges from 0 to 5 and the second # ranges from 0 to 3.

port-state		string optional	Current port state. Possible values are: "ok", "empty", "unkwn_lnk", "no_signal", "unused", "unkwn", "unknown", "dis_man", "dis_unusd", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "term-err", "term", "autoterm".

Element definition: **shelf-environ-channel-address-map**

[top]

A list of all the shelf assigned addresses assigned on this channel.

Name	Range	Type	Description
address-map		string	A comma separated list of addresses assigned on this channel by the shelf specified in shelf-no output above.
drawer-address-map-list		drawer-address-map[] optional	A list of all the drawers in the shelf and the addresses assigned to each drawer devices.
shelf-id	**[0..255]**	integer	Shelf number for presented address map.

Element definition: **shelf-environ-shelf-info**

[top]

Shelf environment information.

Name	Range	Type	Description
alternate-control-path-information		alternate-control-path-info[] optional	Available information on the alternate control path (ACP) to the shelf.
ariodata-specific-info		ariodata-specific-info optional	Vendor specific enclosure system information for Ariodata shelves.
attached-shelf-bay-error-list		string optional	A list of bays numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list from high to low. Example: "13, 10, 4, 1".
attached-shelf-bay-list		string	A list of bays numbers in this shelf that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list from high to low. Example: "13, 11, 10, 4, 3, 2, 1".
attached-shelf-drawer-bay-error-list		shelf-drawer-bay-error[] optional	A list of bay numbers in this shelf drawer that have disk devices with errors.
attached-shelf-drawer-bay-list		shelf-drawer-bay[] optional	A list of bay numbers in this shelf drawer that have disk devices installed.
connector-information		connector-info[] optional	Cable and connector information if available and supported by the hardware. Will not be present if the feature is not supported in the hardware.
control-writes-attempted	**[0..2^32-1]**	integer	Number of times attempted to write shelf controls.
control-writes-failed	**[0..2^32-1]**	integer	Number of times failed to write shelf controls.
controller-device-path		string	Device path to the shelf controller. Possible values: "embedded_access", "local_access", "unknown", "not_available".
controller-device-path-port		string optional	If controller-device-path is "local_access", then this presents the local access port number.
		cooling-	

cooling-element-list		element-info[] optional	Information on installed cooling elements in the shelf.
current-sensor-list		current-sensor-info[] optional	Information on current sensors in the shelf.
dcm-list		dcm-info optional	Information on the installed drawer control module (dcm). This will be presented for shelves that have drawers built in.
enclosure-information		enclosure-info optional	Information on the enclosure type. This information will be presented for ESH and SAS shelves only.
es-electronics-list		es-electronics-info[] optional	Information on the installed enclosure services electronics.
eurologic-specific-info		eurologic-specific-info optional	Vendor specific enclosure system information for Eurologic shelves.
is-shelf-monitor-enabled		boolean	Indicates whether monitoring is enabled on this shelf.
power-control-failure-state		string optional	Extension to the power-control-status to provide more information in case of shelf failures. Possible values: "dual_esh4_modules_not_present", "power_control_fault_detected", "incompatible_power_control_implementation", "power_control_function_not_available", "backplane_cpld_fault_detected".
power-control-status		string optional	Power control element status. This is generalization of the ESH4 shelf power status. Currently available on ESH 4 shelves only. Possible values: "ok", "not_supported", "critical", "non_critical", "unknown".
power-supply-list		power-supply-info[] optional	Information on installed power supplies in the shelf.
processor-complex-information		processor-complex-info[] optional	Available information on the processor complex modules (PCMs) in the shelf.
sas-specific-info		sas-specific-info optional	Vendor specific enclosure system information for SAS shelves.
ses-generic-info		ses-generic-info	Generic SES (scsi enclosure services) information.
shelf-id	**[0-99]**	integer	Shelf number.
shelf-status		string	Current shelf status. Possible values: "unrecoverable", "critical", "non_critical", "informational", "normal".
shelf-type		string	Shelf type. Possible values: "edm", "vem", "esp", "lrc", "lrc2", "esh", "esh2", "esh4", "eshfx", "emu", "efh", "eshtx", "sas", "esas", "sas_fc", "iom3", "at_fcx", "at_fcx2", "iom6", "iom6e".
status-reads-attempted	**[0..2^32-1]**	integer	Number of times attempted to read shelf status.
status-reads-failed	**[0..2^32-1]**	integer	Number of times failed to read shelf status.
temp-sensor-list		temp-sensor-info[] optional	Information on installed temperature sensors in the shelf.
voltage-sensor-list		voltage-sensor-info[] optional	Information on voltage sensors in the shelf.
xyratex-specific-info		xyratex-specific-info optional	Vendor specific enclosure system information for Xyratex shelves.

Element definition: **alternate-control-path-info**

[top]

Available information on the alternate control path (ACP) to the shelf.

Name	Range	Type	Description
acp-element-no	**[1..2]**	integer	ACP element number
controller-acp-connection-status		string optional	Storage controller's ACP connection status. Possible values: "no_connectivity", "partial_connectivity", "full_connectivity", "additional_connectivity", "unknown", "not_available", "not_applicable".
controller-acp-domain		string optional	This fields presents the ACP's domain on the storage controller. Example: 255.255.255.0
controller-acp-ethernet-port		string optional	This fields presents the ACP's ethernet port on the storage controller. Example: e0a, e4d.
controller-acp-ip-address		string optional	This fields presents the ACP's IP address on the storage controller. Example: 172.168.4.4
controller-acp-netmask		string optional	This fields presents the ACP's netmask on the storage controller. Example: 172.168.4.1
is-acp-element-error		boolean optional	Indicates if there has been a failure in the ACP block. Will not be present if an ACP element is not installed.
is-acp-element-not-installed		boolean optional	Indicates if ACP element has been installed. Will be present only if the element is not installed, in which case no further information will be provided.
is-controller-acp-active		boolean optional	Indicates whether the ACP function is active on the storage controller. Inactive ACP unually means there is configuration or connection error that needs to be resolved.
is-controller-acp-enabled		boolean optional	Indicates if ACP functionality is enabled in the storage controller. If the ACP funtion is not enalbed the following fields will not be presented.
module-firmware-revision		string optional	Firmware version of the ACP controller. This field will not be present if the value is unknown or not available, or if an ACP element is not installed.
module-ip-address		string optional	IP address that is used by this ACP shelf module. This field will not be present if the IP address is unknown or not available, or if an ACP element is not installed.
module-mac-address		string optional	MAC address that is used by this module's ACPP. This field will not be present if the MAC address is unknown or not available, or if an ACP element is not installed.
module-name		string optional	Shelf module for this ACPP. Possible Values: "A", "B" This field will not be present if it is unknown or not available, or if an ACP element is not installed.
module-reset-count	**[0..2^32-1]**	integer optional	Number of times the corresponding shelf I/O module has been reset using this ACPP. This field will not be present if it is unknown or not available, or if an ACP element is not installed.
module-status		string optional	ACP status of this shelf module. This field will not be present if it is unknown or not available, or if an ACP element is not installed. Possible values: "active", "inactive_not_ready", "inactive_waiting_for_inband_info", "inactive_no_inband_connectivity", "inactive_not_responding", "inactive_updating_firmware", "inactive_initializing", "inactive_unknown".
module-status-time		string optional	Time of last contact with the ACP controller. This is only valid if the value of module-status field is inactive_not_responding.

Element definition: **ariodata-specific-info**

[top]

Vendor specific enclosure system information for Ariodata shelf.

Name	Range	Type	Description
ariodata-serial-no		string	Serial number for Ariodata shelf.

Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

Name	Range	Type	Description
drawer-bay-slot-number		integer optional	Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254]
drawer-number		integer optional	Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254]
lun		integer optional	The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255]
shelf-bay		integer	A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255]

Element definition: **connector-info**

[top]

Information on cables and/or connectors connected to the shelf

Name	Range	Type	Description
sas-connector-list		sas-connector-info[] optional	Information on SAS connectors & cables.

Element definition: **cooling-element-info**

[top]

Information on individual cooling elements (fans).

Name	Range	Type	Description
cooling-element-is-error		boolean optional	Indicated whether cooling elements has failed or reported any errors. Will not be present if cooling element is not installed.
cooling-element-is-not-installed		boolean optional	Indicates the cooling elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented.
cooling-element-number	**[0..255]**	integer	Cooling element number.
rpm	**[0..32766]**	integer optional	Current RPM (revolutions per minutes) of the fan. Will not be present if RPM is not available at the time API is executed or if RPM detection hardware is not supported by the shelf or if cooling element is not installed.

Element definition: **current-sensor-info**

[top]

Presents the electrical current sensor information, if implemented on the system.

Name	Range	Type	Description
current-sensor-no	**[1..20]**	integer	Current sensor number.
is-sensor-error		boolean optional	Will indicate whether the sensor has encountered an error.
is-sensor-not-installed		boolean optional	Indicates the current sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented.

sensor-condition		string optional	A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overcurrent_failure", "overcurrent_warning", "normal_operating_range".
sensor-reading		string optional	Current reading of the sensor. This field will be not be present if unable to read the sensor value properly.

Element definition: **dcm-info**

[top]

The shelf drawer control module information (dcm).

Name	Range	Type	Description
dcm-firmware-version		string optional	The firmware version of the dcm.
dcm-number	**[0..254]**	integer	The DCM number.
dcm-part-number		string optional	The part number of the dcm.
dcm-serial-number		string optional	The serial number of the dcm.
dcm-type		string optional	The dcm type.
dcm-vendor		string optional	The dcm vendor.
is-dcm-error		boolean optional	Indicates whether this module has encountered an error.
is-dcm-installed		boolean optional	Indicates the dcm for this element is installed.

Element definition: **dongle-info**

[top]

dongle information

Name	Range	Type	Description
disable-reason		string optional	If phy-state is "disabled", then this will give explanation as to the reason. Possible values: "manual", "no_drive", "brst_los", "los", "brst_rdd", "rdd", "brst_idd", "idd", "brst_prp", "prp", "brst_pcd", "pcd", "brst_crc", "crc", "osc", "mir", "rsrv", "man_smp", "clk_flt", "unknown".
dongle-firmware-revision		string optional	Dongle firmware revision. Will be missing if not supported or not available.
dongle-type		string optional	Dongle type. Possible values: "ss1300b", "sas", "sps3g", Will be missing if not supported or not available.

Element definition: **drawer-address-map**

[top]

The shelf drawer devices address map.

Name	Range	Type	Description
address-map		string	A list of addresses assigned to this channel for the drawer on the shelf specified in the shelf-id output above.
drawer-number	**[0..254]**	integer	The DCM number.

Element definition: **enclosure-info**

[top]

Information on the enclosure type. This information will be presented for ESH and SAS shelves only.

Name	Range	Type	Description
enclosure-type		string	Enclosure type. Possible values: "sas_expander_module", "embedded_switching_hub".
module-list		module-info[]	Information on the enclosure modules.

Element definition: **es-electronics-info**

[top]

Information on the installed enclosure services (ES) electronics.

Name	Range	Type	Description
es-electronics-element-no	**[0..255]**	integer	Enclosure services electronics element number.
es-electronics-is-error		boolean optional	indicates whether this enclosure services electronics has reported any errors. Will not be present if the element is not installed.
es-electronics-is-not-installed		string optional	Indicates this enclosure services electronics is not installed. This will only be presented when the element is missing, no further data for this element will be presented.
es-electronics-is-reporting-element		boolean optional	Indicated whether this is the element reporting. Even though there might be more than one element installed, only will be reporting at any time. Will not be present if the element is not installed.
es-electronics-serial-no		string optional	Serial number for the enclosure services electronics. Will not be present if the element is not installed.
es-part-number		string optional	Part number for the ES electronics. Field will be missing if the information is not available or if the element is not installed.
es-revision		string optional	CPLD revision of the ES electronics, if applicable. This field will not be present if the information is not available, not implemented, or if the element is not installed.
es-swap-count	**[0..255]**	integer optional	Number of times, since last boot, that this ES electronics elements has been swapped. Will not be present if the element is not installed.
esh-list		esh-info[] optional	Information on attached embedded switched hub, if any.

Element definition: **eurologic-specific-info**

[top]

Vendor specific enclosure system information for Eurologic shelf.

Name	Range	Type	Description
eurologic-application-version		string	Application version for Eurologic shelf.
eurologic-backplane-byte		string	Backplane byte for Eurologic shelf.
eurologic-backplane-function		string	Backplane function for Eurologic shelf.
eurologic-backplane-id		string	Backplane identifier for Eurologic shelf.
eurologic-cabinet-id		string	Cabinet id for the Eurologic shelf.
eurologic-kernel-version		string	Kernel version for Eurologic shelf.
eurologic-serial-no		string optional	Serial number for the Eurologic shelf.

Element definition: **power-supply-info**

[top]

Power supply information

Name	Range	Type	Description
is-auto-power-reset-enabled		boolean optional	Indicates whether the auto power reset of the supply is enabled. This field will not be present if the power supply is missing.
is-power-reset-capable		boolean optional	Indicates whether the power supply can be reset via software control. This field will not be present if power supply is missing.
power-supply-element-number	**[0..255]**	integer	Element number the power supply.
power-supply-firmware-revision		string optional	Power supply firmware revision. This field will not be present if firmware rev is unavailable or feature not implemented, or if the power supply is missing.
power-supply-is-error		boolean optional	Indicates whether the power supply has reported any errors. This field will not be present if the power supply is missing.
power-supply-is-not-installed		boolean optional	Indicates the power supply for this element is not installed. This will only be presented if the power supply is missing, in which case no further information for the element will be available.
power-supply-part-no		string optional	Power supply part number. The field will not be present if part number is unavailable or not implemented or if the power supply is missing.
power-supply-serial-no		string optional	Power supply serial number. This field will not be present if the power supply is missing.
power-supply-swap-count	**[0..255]**	integer optional	Number of power supply swap counts since boot. This field will not be present if the power supply is missing.
power-supply-type		string optional	Power supply type. This field will not be present if power supply type is unavailable or feature is not implemented, or if the power supply is missing.

Element definition: **processor-complex-info**

[top]

Available information on the processor complex modules (PCMs) in the shelf.

Name	Range	Type	Description
is-pcm-element-error		boolean optional	Indicates if there has been a failure in the PCM. Will not be present if a PCM element is not installed.
is-pcm-element-not-installed		boolean optional	Indicates if PCM element has been installed. Will be present only if the element is not installed, in which case no further information will be provided.
pcm-element-no	**[1..2]**	integer	PCM element number

Element definition: **sas-specific-info**

[top]

Vendor specific enclosure system information for SAS shelf.

Name	Range	Type	Description
serial-no		string	Shelf backplane serial number.

Element definition: **ses-generic-info**

[top]

Generic SES (SCSI enclosure services) information.

Name	Range	Type	Description
ses-chassis-part-number		string optional	Chassis part number. The field will not be present if the part number is unavailable or not implemented.
ses-config-access		string optional	The method shelf configuration was obtained. Possible values: "via_embedded_ses", "via_scsi_from_shelf", "via_loop_from_shelf", "remote_access_via_controller", "not_available".
ses-config-access-controller-name		string optional	If the value of ses-config-access field is "remote_access_via_controller" then this field will return the name of storage controller the configuration was obtained from. This field will not be present if storage controller name is not available or if the value of ses-config-access field is not "remote_access_via_controller".
ses-config-access-shelf-id		string optional	If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the shelf id of the device the configuration was obtained from.
ses-config-access-source-id		integer optional	If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the SCSI or loop id of the device that the configuration was obtained from.
ses-contact-state		string	Enclosure contact state. Possible values are: "active", "initializing", "transitioning", "inactive", "reconfiguring", "non_existent".
ses-logical-id		string	Enclosure logical identifier.
ses-midplane-part-number		string optional	Enclosure midplane part number. The field will not be present if the midplane is not present.
ses-midplane-serial-number		string optional	Enclosure midplane serial number. The field will not be present if the midplane is not present.
ses-product-id		string optional	Enclosure product identifier. Not available on all shelf types.
ses-product-revision		string	Enclosure product revision.
ses-vendor-id		string	Enclosure vendor identifier.

Element definition: **shelf-drawer-bay**

[top]

The list of bays in the drawer that has a device.

Name	Range	Type	Description
attached-drawer-bay-list		string	A list of bay numbers in this shelf drawer that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list.
drawer-number	**[0..254]**	integer	The DCM number.

Element definition: **shelf-drawer-bay-error**

[top]

The list of bays in the drawer that has devices with error.

Name	Range	Type	Description
attached-drawer-bay-list-with-error		string	A list of bay numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list.
drawer-number	**[0..254]**	integer	The DCM number.

Element definition: **temp-sensor-info**

[top]

information on the temperature sensors installed in the shelf.

Name	Range	Type	Description
temp-sensor-current-condition		string optional	Current temperature condition for this sensor. One of: "under_temperature_warning", "under_temperature_failure", "over_temperature_warning", "over_temperature_failure", "normal_temperature_range".
temp-sensor-current-temperature	**[0..255]**	integer optional	Current temperature reading in degrees Celsius.
temp-sensor-element-no	**[0..255]**	integer	Element number for the temperature sensor.
temp-sensor-hi-critical	**[0..255]**	integer optional	High critical temperature in degree Celsius.
temp-sensor-hi-warning	**[0..255]**	integer optional	High warning temperature in degree Celsius.
temp-sensor-is-ambient		boolean optional	Indicates whether the temp-sensor-current-temp is the ambient temperature.
temp-sensor-is-error		boolean optional	Indicates whether the sensor has indicated an error in temperature.
temp-sensor-is-not-installed		boolean optional	Indicates the sensor for this element is not installed. This will only be presented if the sensor is missing, and no further data for this sensor will be presented.
temp-sensor-low-critical	**[0..255]**	integer optional	Low critical temperature in degree Celsius.
temp-sensor-low-warning	**[0..255]**	integer optional	Low warning temperature in degree Celsius.

Element definition: **voltage-sensor-info**

[top]

Presents the voltage sensor information, if implemented on the system.

Name	Range	Type	Description
is-sensor-error		boolean optional	Indicates whether the sensor has encountered an error.
is-sensor-not-installed		boolean optional	Indicates the voltage sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented.
sensor-condition		string optional	A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overvoltage_failure", "overvoltage_warning", "undervoltage_warning", "undervoltage_failure", "normal_operating_range".
sensor-reading		string optional	Voltage reading of the sensor. This field will be not be present if unable to read the sensor value properly.
voltage-sensor-no	**[1..20]**	integer	Voltage sensor number.

Element definition: **xyratex-specific-info**

[top]

Vendor specific enclosure system information for Xyratex shelf.

Name	Range	Type	Description
xyratex-option-setting		string	Option setting for the Xyratex shelf.
xyratex-serial-no		string	serial number for Xyratex shelf.

Element definition: **esh-info**

[top]

Information on individual ESH modules in the shelf.

Name	Range	Type	Description
esh-element-no	**[0..255]**	integer	ESH element number of installed ESH module
esh-is-error		string	Indicates whether the ESH module has reported any errors.

Element definition: **module-info**

[top]

Shelf enclosure module info.

Name	Range	Type	Description
is-module-error		boolean	Indicated whether this module has encountered an error.
is-sas-expander-master-module		boolean optional	When the value of enclosure-type field of enclosure-type-info is sas-expander-module, then this field indicates whether this module is the SAS expander master module. This field will only be present for sas-expander-module values.
module-connector-wwn		string optional	WWN of the module connector, example "500A0980017D373F".
module-number	**[0..1]**	integer	shelf module number.

Element definition: **sas-connector-info**

[top]

Detailed information on SAS cables and connectors connected to the shelf. Only information on the connectors with cables attached will be presented.

Name	Range	Type	Description
attached-serial-no		string optional	Serial number of the attached cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends.
cable-end-identifier		string optional	Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1".
cable-length		string optional	Cable length. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector.
cable-local-conn-wwn		string optional	WWN of the local connector that the cable is attached to, example "500A0980017D373F".
cable-manufacturer		string optional	Manufacturer of the cable. Will not be present if a cable is not connected at this connector.
cable-part-no		string optional	Part number of the cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector.
cable-remote-conn-wwn		string optional	WWN of the remote connector that the cable is attached to, example "300A0980052ED2B2".
cable-serial-no		string optional	This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-no. For the actual serial number see attached-serial-no. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device.
cable-technology		string optional	Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "cupper", "optical".
cable-type		string	Type of the cable being used. This field will not be present if the information is not available or accessible, or if a cable is not connected at this

		optional	connector. Possible values: "qsfp".
connector-designator		string optional	Connector desiagnator. • "sqr" - The port is marked with a square on the shelf connector panel, • "cir" - The port is marked with a circle on the shelf connector panel. Will be missing if unknown or not available.
connector-no	**[0..4]**	integer	Connector number.
is-cable-connected		boolean	Indicates whether a cable is connected at this connector location. No further information will be provided if a cable is not connected at this connector location. Note that a cable connection does not necessarily mean that the shelf is connected to a storage cointroller. This will also depend on the other end of the cable.
is-connector-error		boolean optional	Indicates whether the connector element has encountered an error.
shelf-module		string optional	Shelf module for this connector • "a" - Presenting data for shelf module A. • "b" - Presenting data for shelf module B.
swap-count	**[0..255]**	integer optional	Number of times, since last boot, a cable has been inserted into this connector

APIs in Category: **sis**

sis-disable
sis-disable-async
sis-enable
sis-enable-async
sis-get
sis-get-iter
sis-policy-create
sis-policy-delete
sis-policy-get
sis-policy-get-iter
sis-policy-modify
sis-set-config
sis-set-config-async
sis-start
sis-start-async
sis-status
sis-stop
sis-stop-async

These APIs can be used to manage deduplication and compression on flexible volumes. In the following API descriptions, these space saving technologies are collectively referred to as "sis".

A "sis volume" refers to a flexible volume on which deduplication and/or compression has been enabled. It can also refer to volumes where deduplication and/or compression are currently disabled (say, temporarily), but the volume has compressed and/or shared data. Currently, compression can be enabled on a volume, only when deduplication is also enabled on the volume.

A "sis operation" refers to a background operation that is running on a volume to deduplicate and/or compress data in the volume.

In future, the sis APIs may be extended to support other storage entities like aggregates. Hence, all sis APIs accept a "path" argument instead of a volume name.

sis-disable

[top]

Disable sis on a volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop" API before disabling.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
path		string	The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time.

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Vfiler-enabled
Yes

sis-disable-async

[top]

Disable sis on a FlexGroup or an Infinite Volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop-async" API before disabling.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
volume-name		string	Name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-enable

[top]

Enable sis on a volume.

On a non-SnapVault secondary volume, the sis operation will be started periodically according to a per-volume schedule. By default, this schedule is sun-sat@0. (Everyday at 0:00 hours) On a SnapVault secondary volume, the sis operation will be kicked off at the end of the SnapVault transfer. This API does not enable compression on the volume. See the "sis-set-config" API for options to enable compression and for modifying the default schedule set on the volume. A sis operation can also be manually started using the sis-start API.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
path		string	The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online to enable sis on the volume.

Errno	Description
EAPIMISSINGARGUMENT	
EAPIERROR	
EONTAPI_EINVAL	
EINTERNALERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILE	

Vfiler-enabled
Yes

sis-enable-async

[top]

Enable sis on a FlexGroup or an Infinite Volume.

This is similar to 'sis-enable' API except that it operates on a FlexGroup or Infinite Volume. Read about 'sis-enable' API for specific details.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
volume-name		string	Name of the volume. The volume must be online to enable sis.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EAPIERROR	
EONTAPI_EINVAL	
EINTERNALERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-get

[top]

Get status of a sis volume.

This API is not supported on Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
desired-attributes		sis-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
path		volume-path	Volume for which sis information is returned. Path is of the format /vol/<vol_name>.

Output Name	Range	Type	Description
attributes		sis-status-info	The attributes to return with this call.

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-get-iter

[top]

Iterate over a list of sis volumes.

This API is not supported on Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
desired-attributes		sis-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call.
query		sis-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes. All sis objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sis-status-info[] optional	The list of attributes of sis objects.
next-tag		string optional	Tag for the next call. Not present when there are no more sis objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-create

[top]

Create a new sis policy.

Input Name	Range	Type	Description
changelog-threshold-percent	**[0..100]**	integer optional	Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour.
comment		string optional	A brief description of the policy.
duration		string optional	The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. Otherwise, the duration has to be an integer greater than 0. By default, the operation runs till it completes.
			If the value is true, the sis policy is active in this cluster. If the value is

enabled		boolean optional	false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. Default value: "true"
policy-name		string	sis policy name.
policy-type		string optional	The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.) • "threshold" - Changelog processing occurs once the changelog reaches a certain percent full. • "scheduled" - Changelog processing will be triggered by time. Default value: "scheduled"
qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
schedule		string optional	Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-delete

[top]

Delete a sis policy.

Input Name	Range	Type	Description
policy-name		string	sis policy name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-get

[top]

Get attributes of a sis policy.

Input Name	Range	Type	Description
desired-attributes		sis-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		string	sis policy name.

Output Name	Range	Type	Description
attributes		sis-policy-info	The attributes of the sis-policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-get-iter

[top]

Iterate over a list of sis policy objects.

Input Name	Range	Type	Description
desired-attributes		sis-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call.
query		sis-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the sis policy. All sis policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sis-policy-info[] optional	The list of attributes of sis policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more sis policy objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-modify

[top]

Modify the attributes of a sis policy.

Input Name	Range	Type	Description
changelog-threshold-percent	**[0..100]**	integer optional	Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour.
comment		string optional	A brief description of the policy. If a value is not provided the current settings are retained. An empty string can be used to clear the current settings.
duration		string optional	The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. If duration is not provided the current setting is not modified.
enabled		boolean optional	If the value is true, the sis policy is active in this cluster. If the value is false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. If the value is not specified, the current settings are retained.
policy-name		string	sis policy name. Attributes: key, non-modifiable
policy-type		string optional	The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.) • "threshold" - Changelog processing occurs when the changelog reaches a certain percent full. • "scheduled" - Clog processing will be triggered by time.
qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
schedule		string optional	Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. If this field is not set, the existing value is not modified.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-set-config

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
application-io-size		string optional	Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and inactive data will be compressed at 32K size later automatically in background.
compression-algorithm		string optional	Specifies the compression algorithm on volume. Possible values: • 0 - none • 1 - lzopro • 2 - gzip • 3 - lzrw1a
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
enable-compression		boolean optional	Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged. Enabling compression on a secondary volume is strongly discouraged. If compression is enabled on a secondary volume, storage efficiency present on the source will not be preserved during replication. The destination system needs to run offline storage efficiency scanner (compression and dedupe) to achieve storage savings. Additional compression savings on the destination comes at a cost of extra computation resources. In environments where there is a lot of shared data present on the source, (e.g., virtualized environments employing file clones), data inflation during transfer may lead to failed backups due to lack of space on the secondary volume.
enable-cross-volume-background-dedupe		boolean optional	Enable cross volume background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged.
enable-cross-		boolean	Enable cross volume inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume.

volume-inline-dedupe		optional	If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged.
enable-data-compaction		boolean optional	Enable data compaction on the sis volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged.
enable-idd		boolean optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'.
enable-inline-compression		boolean optional	Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged.
enable-inline-dedupe		boolean optional	Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged.
path		string	The full path of the sis volume, /vol/<vol_name>.
policy-name		string optional	The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous schedule set on the volume is automatically reset.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression.
		string	The schedule string for the sis operation. The format of the schedule: day_list[@hour_list] or hour_list[@day_list] or - or auto or manual The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat. The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list

schedule		optional	is 0, i.e. midnight on the morning of each scheduled day. If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset. The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later. The "manual" schedule string prevents SIS from automatically triggering any operations and disables change-logging. This schedule string can only be used on SnapVault destination volumes. The use of this schedule is mainly desirable when inline compression is enabled on a SnapVault destination volume and background processing is not necessary.
storage-efficiency-mode		string optional	Specifies the efficiency mode for the volume. default value will set 8K adaptive compression on the volume. efficient will set auto adaptive compresion on the volume. Possible values: • 1 - default • 2 - efficient

Errno
EAPIMISSINGARGUMENT
EONTAPI_EINVAL
EAPIERROR
EVOLUMENOTONLINE
EOBJECTNOTFOUND
EVSERVERNOTFOUND
EVSERVER_OP_NOT_ALLOWED
EINVALIDINPUTERROR
EVOLUME_TYPE_NOT_SUPPORTED
E_OLV_FG_EFFICIENCY_OP_FAILED

Vfiler-enabled
Yes

sis-set-config-async

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
application-		string	Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If

io-size		optional	application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and incative data will be compressed at 32K size later automatically in background.
compression-algorithm		string optional	Specifies the compression algorithm on volume. Possible values: • 0 - none • 1 - lzopro • 2 - gzip • 3 - lzrw1a
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
enable-compression		boolean optional	Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged.
enable-cross-volume-background-dedupe		boolean optional	Enable background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged.
enable-cross-volume-inline-dedupe		boolean optional	Enable inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume. If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged.
enable-data-compaction		boolean optional	Enable data compaction on the volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged.
enable-idd		boolean optional	This parameter is no longer suppported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'.
enable-inline-compression		boolean optional	Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged.
enable-inline-dedupe		boolean optional	Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged.
policy-name		string optional	The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. The policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous

			schedule set on the volume is automatically reset.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression.
schedule		string optional	The schedule string for the sis operation. The format of the schedule: day_list[@hour_list] or hour_list[@day_list] or - or auto or manual The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat. The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list is 0, i.e. midnight on the morning of each scheduled day. If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset. The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later. If "manual" is specified, sis operation will never be triggered automatically. Only the user can manually execute the sis operation.
volume-name		string	Name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	

EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-start

[top]

Start a sis operation on a volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
build-metadata		boolean optional	If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default value: "false"
delete-checkpoint		boolean optional	If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false"
path		string	The full path of the sis volume, /vol/<vol_name>. The volume must be online in order to start the sis operation.
qos-policy		string optional	QoS policy for the sis operation. Possible values are: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
queue-operation		boolean optional	If this is "true", the requested sis operation will be queued if a sis operation is already running on the volume, and the running operation is in the fingerprint verification phase. Default value: "false"
restart-checkpoint		boolean optional	If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false"
run-compaction-scan		boolean optional	If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false"
scan		boolean optional	If this is "true", the sis operation will scan the file system to process all the existing data. The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters. If scan is false only data added since the last sis operation will be processed. Default value: "false"
scan-all		boolean optional	If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter

			for more details. Default value: "false"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMEBUSY	
EVOLUMENOTONLINE	
EDENSE_CONCURRENT_LIMIT	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EDENSE_DROPPED_AUTO	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Vfiler-enabled
Yes

sis-start-async

[top]

Start a sis operation on FlexGroup or an Infinite Volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
build-metadata		boolean optional	If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false"
delete-checkpoint		boolean optional	If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false"
qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
queue-operation		boolean optional	If this is "true", the requested sis operation will be queued if a sis operation is already running on the Infinite Volume, and the running operation is in the fingerprint verification phase. Default value: "false"
restart-checkpoint		boolean optional	If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false"

run-compaction-scan		boolean optional	If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false"
scan		boolean optional	If this is "true", the sis operation will scan the file system to process all the existing data. The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters. If scan is false only data added since the last sis operation will be processed. Default value: "false"
scan-all		boolean optional	If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false"
volume-name		string	The name of the volume. The volume must be online in order to start the sis operation.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMEBUSY	
EVOLUMENOTONLINE	
EDENSE_CONCURRENT_LIMIT	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-status

[top]

Get Status of a sis volume This API is not optimal for use in Data ONTAP Cluster-Mode systems, and is

deprecated. Use sis-get and sis-get-iter APIs for Data ONTAP Cluster Mode systems. This API is still supported for Data ONTAP 7-Mode systems.

Input Name	Range	Type	Description
path		string optional	The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online if not then an error will be returned. If path variable is not used then the status for all online sis volumes in the filer will be returned.
verbose		boolean optional	If set to true the output is detailed. Default value: "false"

Output Name	Range	Type	Description
sis-object		dense-status[]	sis status objects returned.

Errno	Description
EAPIMISSINGARGUMENT	
EAPIERROR	
EONTAPI_EINVAL	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

sis-stop

[top]

Abort currently active sis operation on the volume. The sis operation will remain paused and the operation can be resumed by "sis-start", SnapVault transfer, or the scheduler.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
all-operations		boolean optional	If this is "true", both active and queued sis operation will be stopped. Default value: "false"
path		string	The full path of the sis volume, /vol/<vol_name>.

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Vfiler-enabled
Yes

sis-stop-async

[top]

Abort currently active sis operation on the FlexGroup or Infinite Volume. The sis operation will remain paused and the operation can be resumed by "sis-start-async" or the scheduler.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
all-operations		boolean optional	If this is "true", both active and queued sis operation will be stopped. Default value: "false"
volume-name		string	The name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Element definition: **dense-status**

[top]

Name	Range	Type	Description
application-io-size		string optional	Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable.
auto-state		string	Possible values: • "Not auto" - Auto is not enabled, • "Auto" - Auto policy is enabled, • "Deprioritized" - Volume is deprioritized
blocks-skipped-sharing	**[0..2^32-1]**	integer optional	Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
changelog-used-percent	**[0..2^32-1]**	integer optional	Percentage of changelog used. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
checkpoint-op-type		string optional	Checkpoint Operation Type. Possible values: • "-", • "Scan", • "Start", • "Check", • "Undo", • "Downgrade" Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
checkpoint-progress		string optional	Checkpoint Stage Progress with information as to which stage of sis is checkpointed and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
checkpoint-stage		string optional	Checkpoint Stage information. Possible values: • "-", • "Gathering", • "Sorting", • "Saving_pass1", • "Saving_pass2", • "Checking", • "Checking_pass1", • "Checking_pass2", • "Compress_preproc", • "Compressing", • "Saving_sharing", • "Saving_end", • "Unknown_stage" Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
			Checkpoint Sub Stage information. Possible values: • "-", • "Sort_pass1", • "Sort_p1merge",

checkpoint-sub-stage		string optional	"Sort_pass2", • "Bucket_sort_init", • "Bucket_sort", • "Bucket_sort_done" Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
checkpoint-time	**[0..2^63-1]**	integer optional	Checkpoint creation timestamp. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
compression-algorithm		string optional	Specifies the algorithm used for compression. Possible values: • 0 - none • 1 - lzopro • 2 - gzip 3 - lzrw1a Attributes: non-creatable, non-modifiable.
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
has-cross-volume-sharing		boolean optional	Volume has cross volume sharing Attributes: non-creatable, non-modifiable
has-extended-compressed-data		boolean optional	Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable
is-compression-enabled		boolean optional	compression state of the volume Attributes: non-creatable, non-modifiable
is-content-available		boolean	This indicates if the value of other elements in this dense-status object are valid. Attributes: non-creatable, non-modifiable This parameter is not supported on Infinite Volumes. A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume.
is-cross-volume-background-dedupe-enabled		boolean optional	Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable
is-cross-volume-inline-dedupe-enabled		boolean optional	Cross volume inline deduplication state of the volume Attributes: non-creatable, non-modifiable
is-data-compaction-enabled		boolean optional	Data compaction state of the volume Attributes: non-creatable, non-modifiable
			This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values:

is-idd-enabled		boolean optional	"true", • "false" Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes.
is-inline-compression-enabled		boolean optional	inline compression state of the volume Attributes: non-creatable, non-modifiable
is-inline-dedupe-enabled		boolean optional	Inline deduplication state of the volume Attributes: non-creatable, non-modifiable
last-operation-begin-timestamp	**[0..2^31-1]**	integer optional	Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-end-timestamp	**[0..2^31-1]**	integer optional	End timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-error		string optional	A human readable error message of the last sis operation. Present when there was an error. Returned only if verbose option is set. and when there is a valid error. This parameter is not supported on Infinite Volumes.
last-operation-size		string optional	The size of the last sis operation in human readable format. This output element is deprecated in Data ONTAP 8.1. Please use the last-operation-size-bytes output element instead. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-size-bytes	**[0..2^63-1]**	integer optional	The size in bytes of the last sis operation. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-state		string optional	Completion status for the last operation. Possible values: • "success", • "failure" Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes.
last-success-operation-begin-timestamp	**[0..2^31-1]**	integer optional	Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
last-success-operation-end-timestamp	**[0..2^31-1]**	integer optional	End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
logical-data		sis-logical-data	This contains logical size attributes of a volume. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.

		optional	
minimum-blocks-shared	**[0..2^32-1]**	integer optional	The minimum number of contiguous blocks in a file that will be considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing. Returned only if verbose option is set.
path		string	Volume for which sis information is returned.
policy		string optional	sis policy name. Returned only if verbose option is set.
progress		string	The progress of the current sis operation with information as to which stage is currently in progress and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes.
queued-job-type		string optional	Type of sis operation that is queued for the volume. Possible values: • "-" - No sis operation is queued for the volume, • "Scan", • "Start", • "Check", • "Downgrade" Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes.
schedule		string optional	The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Returned only if verbose option is set.
stale-fingerprint-percentage	**[0..2^32-1]**	integer optional	Percentage of fingerprints that are stale in the fingerprint database. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
state		string	Possible values: • "Enabled", • "Disabled", • "Mixed" -For FlexGroups, if sis is not Enabled or Disabled consistently across all constituents.
status		string	Possible values: • "Idle" - No sis operations are happening on this volume, • "Initializing" - sis operation is being initialized, • "Active" - sis operation is active on the volume, • "Undoing" - sis is being undone on the volume, • "Pending" - sis operations are scheduled for the volume, • "Downgrading" - The sis operation necessary to downgrade the volume is active, • "Disabled" - sis operation is disabled on the volume. This parameter is not supported on Infinite Volumes.
type		string optional	Possible values: • "Regular", • "SnapVault" Any sis volume with Snapvault qtree in it would be marked as

			Snapvault and all others would be returned as type Regular. Returned only if verbose option is set.
vserver		vserver-name optional	Vserver Name

Element definition: **sis-policy-info**

[top]

sis-policy-info typedef When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
changelog-threshold-percent	**[0..100]**	integer optional	Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. Attributes: optional-for-create, modifiable
comment		string optional	A brief description of the policy. Attributes: optional-for-create, modifiable
duration		string optional	The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If there is no duration set on the volume, the operation will run till it completes. Attributes: optional-for-create, modifiable
enabled		boolean optional	If the value is true, the sis policy is active and sis operations will be triggered on the volume on the specified schedule. If the value is false, the sis policy will be inactive and sis operations will not be triggered on the volume on the specified schedule. Attributes: optional-for-create, modifiable
policy-name		string optional	sis policy name. Attributes: key, required-for-create, non-modifiable
policy-owner		string optional	Owner of the policy. Possible values: • "cluster_admin" - Policy is owned by the cluster admin. This policy can be applied to volumes owned by any Vserver. • "vserver_admin" - Policy is owned by the Vserver admin. This policy can only be applied to volumes owned by the same Vserver.
policy-type		string optional	The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.) • "threshold" - Changelog processing occurs once the changelog reaches a certain percent full. • "scheduled" - Clog processing will be triggered by time. • Attributes: optional-for-create, modifiable

qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background, with minimal or no impact on data aserving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Attributes: optional-for-create, modifiable
schedule		string optional	Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API. Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **sis-status-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application-io-size		string optional	Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable.
auto-state		string optional	Possible values: • "Not auto" - Auto is not enabled, • "Auto" - Auto policy is enabled, • "Deprioritized" - Volume is deprioritized
blocks-skipped-sharing	**[0..2^32-1]**	integer optional	Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. This parameter is not supported on Infinite Volumes.
changelog-size	**[0..2^64-1]**	integer optional	Size of changelog in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
changelog-used-percent	**[0..2^32-1]**	integer optional	Percentage of changelog used. This parameter is not supported on Infinite Volumes.
checkpoint-op-type		sis-checkpoint-op-type optional	Checkpoint operation Type. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "Scan" - Scanning volume for fingerprints, • "Start" - Starting a sis operation, • "Check" - Checking for stale data in the fingerprint database,

			"Undo" - Undoing sis on the volume, • "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release.
checkpoint-progress		string optional	Checkpoint Stage Progress with information as to which stage of deduplication is checkpointed and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
checkpoint-stage		sis-checkpoint-stage optional	Checkpoint stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "Gathering" - Scanning the volume for fingerprints, • "Sorting" - Sorting the gathered fingerprints, • "Compress_preproc" - Preprocessing volume data for compression, • "Compressing" - Compressing the volume data, • "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints, • "Saving_pass2" - Creating duplicate list from the fingerprint database, • "Saving_sharing" - Creating shared data structures in the volume, • "Saving_end" - Completing sis operations, • "Checking_pass0" - Organizing data in the fingerprint database for block sharing, • "Checking_pass1" - Organizing data in the fingerprint database for block sharing, • "Checking_pass2" - Organizing data in the fingerprint database for block sharing, • "Unknown_stage" - Invalid stage
checkpoint-sub-stage		sis-checkpoint-substage optional	Checkpoint sub-stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "-" - No sub stage check point present, • "Sort_pass1" - Sorting the fingerprints for deduplication, • "Sort_p1merge" - Merging the fingerprints for deduplication, • "Sort_pass2" - Merging the fingerprints for deduplication, • "Bucket_sort_init" - Sorting the fingerprints for deduplication, • "Bucket_sort" - Sorting the fingerprints for deduplication, • "Bucket_sort_done" - Sorting the fingerprints for deduplication completed
checkpoint-time	**[0..2^63-1]**	integer optional	Checkpoint creation timestamp. The value is in seconds since January 1, 1970. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
compression-algorithm		string optional	Specifies the algorithm used for compression. Possible values: • 0 - none • 1 - lzopro • 2 - gzip • 3 - lzrw1a Attributes: non-creatable, non-modifiable.
compression-	**[0..2^64-**	integer	Size of compression log in bytes. Returned only if verbose option

changelog-size	**1]**	optional	is set. This parameter is not supported on Infinite Volumes.
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
file-compression-application-io-size		string optional	Specifies the last application IO size used by compression. Possible values: "8K", "16K", "32K", "-". Attributes: non-creatable, non-modifiable.
has-auto-adaptive-compression-savings		boolean optional	Volume has auto adaptive compression savings Attributes: non-creatable, non-modifiable
has-extended-compressed-data		boolean optional	Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable
is-auto-adaptive-compression-existing-volume		boolean optional	Auto adaptive compression state of already existing volume Attributes: non-creatable, non-modifiable
is-compression-enabled		boolean optional	Compression state of the volume Attributes: non-creatable, modifiable
is-constituent		boolean optional	True implies that the volume is a constituent of an Infinite Volume.
is-content-available		boolean optional	When returned as part of the output, this indicates if the value of other elements in this sis-info object are valid. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume. Default: true
is-cross-volume-background-dedupe-enabled		boolean optional	Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable
is-cross-volume-inline-dedupe-enabled		boolean optional	Cross volume Inline deduplication state of the volume Attributes: non-creatable, non-modifiable
is-data-compaction-enabled		boolean optional	Data compaction state of the volume Attributes: non-creatable, non-modifiable
			This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values: • "true", • "false"

is-idd-enabled		boolean optional	Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes.
is-inline-compression-enabled		boolean optional	Inline compression state of the volume Attributes: non-creatable, modifiable
is-inline-dedupe-enabled		boolean optional	Inline deduplication state of the volume Attributes: non-creatable, non-modifiable
is-using-auto-adaptive-compression		boolean optional	Auto adaptive compression state of volume Attributes: non-creatable, non-modifiable
last-op-begin-timestamp	**[0..2^63-1]**	integer optional	Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is requested. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-end-timestamp	**[0..2^63-1]**	integer optional	End timestamp of the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-error		string optional	A human readable error message of the last sis operation. Present when there was an error. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-size		size optional	The amount of data processed in bytes for the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-state		string optional	Completion status for the last operation. Possible values: • "success", • "failure" Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes.
last-success-op-begin-timestamp	**[0..2^31-1]**	integer optional	Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
last-success-op-end-timestamp	**[0..2^31-1]**	integer optional	End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
logical-data-limit	**[0..2^63-1]**	integer optional	Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes.
logical-data-size	**[0..2^63-1]**	integer optional	The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + + compressed-data bytes]. This parameter is not supported on Infinite Volumes.
minimum-			The minimum number of contiguous blocks in a file that will be

blocks-shared	**[0..2^32-1]**	integer optional	considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing.
path		volume-path optional	Volume for which sis information is returned. Path is of the format /vol/<vol_name>. Attributes: key, non-creatable, non-modifiable
policy		string optional	sis policy name. Attributes: non-creatable, modifiable
progress		string optional	The progress of the current sis operation with information as to which stage of sis process is currently in progress and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
queued-job-type		string optional	Type of sis operation that is queued for the volume. Possible values: • "-" - No sis operation is queued for the volume, • "Scan", • "Start", • "Check", • "Downgrade" This parameter is not supported on Infinite Volumes.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes.
schedule		string optional	The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Attributes: non-creatable, modifiable
stale-fingerprint-percentage	**[0..2^32-1]**	integer optional	Percentage of fingerprints that are stale in the fingerprint database. This parameter is not supported on Infinite Volumes.
state		sis-state optional	State of sis configured on the volume. Attributes: non-creatable, non-modifiable Possible values: • "Disabled", • "Enabled"
status		sis-op-status optional	Status of any sis operation running on the volume. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "Idle" - No sis operations are happening on this volume, • "Initializing" - sis operation is being initialized, • "Active" - sis operation is active on the volume, • "Undoing" - sis is being undone on the volume, • "Pending" - sis operations are scheduled for the volume, • "Downgrading" - The sis operation necessary to downgrade the volume is active, • "Disabled" - sis operation is disabled on the volume.
storage-efficiency-mode		string optional	Storage efficiency mode of the volume Possible values: "default", "efficienct", "-". Attributes: non-creatable, non-modifiable.
			Any sis volume with Snapvault qtree in it would be marked as

type		sis-type optional	Snapvault and all others would be returned as type Regular. Attributes: non-creatable, non-modifiable Possible values: • "Regular" , • "Snapvault"
vault-transfer-log-size	**[0..2^64-1]**	integer optional	Size of vault transfer log in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
vserver		vserver-name optional	A string identifying the Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **volume-path**

[top]

Volume path name

[none]

Element definition: **sis-checkpoint-op-type**

[top]

sis checkpoint type Possible values:

- "Scan" - Scanning volume for fingerprints,
- "Start" - Starting a sis operation,
- "Check" - Checking for stale data in the fingerprint database,
- "Undo" - Undoing sis on the volume,
- "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release.

[none]

Element definition: **sis-checkpoint-stage**

[top]

sis checkpoint stage Possible values:

- "Gathering" - Scanning the volume for fingerprints,
- "Sorting" - Sorting the gathered fingerprints,
- "Compress_preproc" - Preprocessing volume data for compression,
- "Compressing" - Compressing the volume data,
- "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints,
- "Saving_pass2" - Creating duplicate list from the fingerprint database,
- "Saving_sharing" - Creating shared data structures in the volume,
- "Saving_end" - Completing sis operations,
- "Checking_pass0" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass1" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass2" - Organizing data in the fingerprint database for block sharing,
- "Unknown_stage" - Invalid stage

[none]

Element definition: **sis-checkpoint-substage** [top]

sis checkpoint sub-stage Possible values:

- "Sort_pass2" - Sorting the fingerprints for deduplication

[none]

Element definition: **sis-logical-data** [top]

This contains logical size attributes of a volume.

Name	Range	Type	Description
logical-data-limit	**[0..2^63-1]**	integer	Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes.
logical-data-size	**[0..2^63-1]**	integer	The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + compressed-data bytes]. This parameter is not supported on Infinite Volumes.

Element definition: **sis-op-status** [top]

Efficiency status Possible values:

- "idle" - No storage efficiency operations are happening on this volume,
- "initializing" - The storage efficiency operation is being initialized,
- "active" - The storage efficiency operation is active on the volume,
- "undoing" - The storage efficiency is being undone on the volume,
- "pending" - The storage efficiency operation is scheduled for the volume,
- "downgrading" - Storage efficiency actions necessary to downgrade the volume are being carried out,
- "disabled" - Storage efficiency disabled on the volume

[none]

Element definition: **sis-state** [top]

Disabled|Enabled|Mixed Possible values:

- "disabled" ,
- "enabled" ,

- "mixed" - For FlexGroups, if SIS is not enabled or disabled consistently across all constituents,
- "custom" - Only supported on FSx for ONTAP and Cloud Volumes ONTAP, denotes user-defined efficiency features are enabled

[none]

Element definition: **sis-type**

[top]

Regular|SnapVault Possible values:

- "regular" ,
- "snapvault"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **snapdiff**

snapdiff-rpc-server-create
snapdiff-rpc-server-destroy
snapdiff-rpc-server-disable
snapdiff-rpc-server-enable
snapdiff-rpc-server-get
snapdiff-rpc-server-get-create-defaults
snapdiff-rpc-server-get-iter
snapdiff-rpc-server-modify

This set of functions is used to retrieve the set of changed files and directory entries between two snapshots for the same volume. The difference operation will scan the two snapshots and return a list of files and directory entries that have changed since the base snapshot. It will indicate files created, modified, or deleted. The basic sequence is:

1. snapdiff-iter-start
2. snapdiff-iter-status (repeated until session status is in active state)
3. snapdiff-iter-next (repeated until 100% of changes are retrieved or an error is returned. snapdiff-iter-end is the next function expected from the client when either of these conditions occur.)
4. snapdiff-iter-end

Snapdiff APIs require the volume to have Inode to Path(I2P) option turned on.

snapdiff-rpc-server-create

[top]

Create a new SnapDiff RPC Server configuration.

Input Name	Range	Type	Description
return-record		boolean optional	If set to true, returns the SnapDiff RPC Server on successful creation. Default: false
state		boolean	Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true.

Output Name	Range	Type	Description
result		sd-info optional	The SnapDiff RPC Server created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapdiff-rpc-server-destroy

[top]

Delete an SnapDiff RPC Server configuration.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapdiff-rpc-server-disable

[top]

Stop the SnapDiff RPC Server

Errno	Description
EINTERNALERROR	

snapdiff-rpc-server-enable

[top]

Start the SnapDiff RPC Server

Errno	Description
EINTERNALERROR	

snapdiff-rpc-server-get

[top]

Get the SnapDiff RPC Server configuration.

Input Name	Range	Type	Description
desired-attributes		sd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		sd-info	The attributes of the SnapDiff RPC Server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapdiff-rpc-server-get-create-defaults

[top]

Obtain the default values for SnapDiff RPC Server configuration.

Input Name	Range	Type	Description
attributes		sd-info optional	Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute.

Output Name	Range	Type	Description
defaults		sd-info	The default attributes for the SnapDiff RPC Server.

snapdiff-rpc-server-get-iter

[top]

Iterate over the list of SnapDiff RPC Server configurations.

Input Name	Range	Type	Description
desired-attributes		sd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		sd-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the SnapDiff RPC Server object. All SnapDiff RPC Server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sd-info[] optional	The list of attributes of SnapDiff RPC Server objects.
next-tag		string optional	Tag for the next call. Not present when there are no more SnapDiff RPC Server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapdiff-rpc-server-modify

[top]

Modify an SnapDiff RPC Server configuration. If no values are given, the configuration is not modified.

Input Name	Range	Type	Description
state		boolean optional	Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **sd-info**

[top]

Information about SnapDiff RPC Server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
state		boolean optional	Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. Attributes: required-for-create, modifiable
vserver		string optional	Specifies the name of the Vserver Attributes: key, non-creatable, non-modifiable

APIs in Category: **snaplock**

file-get-snaplock-retention-time
file-get-snaplock-retention-time-list-info-max
file-set-snaplock-retention-time
file-snaplock-retention-time-list-info
snaplock-archive-vserver-log
snaplock-create-vserver-log
snaplock-destroy-vserver-log
snaplock-download-check-version
snaplock-event-retention-abort
snaplock-event-retention-apply-start
snaplock-event-retention-get-iter
snaplock-event-retention-policy-create
snaplock-event-retention-policy-destroy
snaplock-event-retention-policy-get-iter
snaplock-event-retention-policy-modify
snaplock-file-privileged-delete
snaplock-get-clock-ntp-sync
snaplock-get-compliance-clock
snaplock-get-file-retention
snaplock-get-node-compliance-clock
snaplock-get-system-compliance-clock
snaplock-get-volume-compliance-clock
snaplock-get-vserver-active-log-files-iter
snaplock-get-vserver-log-iter
snaplock-legal-hold-abort
snaplock-legal-hold-begin-start
snaplock-legal-hold-dump-files-start
snaplock-legal-hold-dump-litigations-start
snaplock-legal-hold-end-start
snaplock-legal-hold-get-iter
snaplock-modify-clock-ntp-sync
snaplock-modify-vserver-log
snaplock-set-file-retention
snaplock-set-node-compliance-clock
snaplock-set-system-compliance-clock
snaplock-volume-set-privileged-delete
volume-get-snaplock-attrs
volume-set-snaplock-attrs

file-get-snaplock-retention-time

[top]

Get the SnapLock retention attributes of a file.

Input Name	Range	Type	Description
path		string	Absolute path of the file to query. The value must be prefixed with

			"/vol/".

Output Name	Range	Type	Description
retention-time		integer	Retention time in seconds since 01/01/1970 00:00:00. A zero value indicates that the file is not in WORM state. Range: [0..2^64-1]

Errno	Description
EONTAPI_ENXIO	
EONTAPI_EIO	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVOLUMEOFFLINE	
EFILENOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMEQUIESCED	
EINTERNALERROR	

Vfiler-enabled
Yes

file-get-snaplock-retention-time-list-info-max

[top]

Get the maximum number of entries that can be processed and returned in one call to the zapi file-snaplock-retention-time-list-info.

Output Name	Range	Type	Description
max-list-entries		integer	The maximum number of pathnames that can be processed in one call to file-snaplock-retention-time-list-info. This limit is imposed to prevent taking up too much CPU/memory for a ZAPI call. If the number of input pathnames for file-snaplock-retention-time-list-info is more than this number, it returns the error EAPITOOMANYENTRIES. Range: [0..2^64-1]

Vfiler-enabled
Yes

file-set-snaplock-retention-time

[top]

Set the SnapLock retention attributes of a file. In some cases, even if the call to file-set-snaplock-retention-time fails (that is the file could not be committed to worm successfully), it is possible that the atime of the file would be modified. One can specify either only retention-time or only set-infinite-retention or only set-unspecified-retention for a given file path while calling this api. If neither the retention-time nor set-infinite-retention is specified, the file is committed to worm as read-only. If the expiry time of the file has been set explicitly, the expiry time is the atime of the file, otherwise the expiry time is calculated using the default retention of the volume as follows: Expiry time = current time + snaplock_default_period

Input Name	Range	Type	Description
path		string	Absolute path of the file. The value must be prefixed with "/vol/<volume-name>".
retention-time	**[0..2^63-1]**	integer optional	Expiry time in seconds since 01-Jan-1970 00:00:00 at which time the file will be eligible for deletion. If the expiry time specified does not comply with the snaplock_minimum_period and snaplock_maximum_period of the volume, the expiry time will be increased or decreased to do so.
set-infinite-retention		boolean optional	Indicates if the retention period on the file needs to be set or extended to the infinite retention period. This field is available in Data ONTAP 8.1 and later. Default is false.
set-unspecified-retention		boolean optional	Indicates if the retention period on the file needs to be set to the 'unspecified' retention period. This field is available in Data ONTAP 9.8 and later. Default is false.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_ERANGE	
EONTAPI_ENXIO	
EONTAPI_EIO	
EVOLUMEOFFLINE	
EFILENOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMEQUIESCED	
EINTERNALERROR	

Vfiler-enabled
Yes

file-snaplock-retention-time-list-info

[top]

Get the Snaplock retention attributes for a list of files.

Input Name	Range	Type	Description
pathnames		snaplock-pathname-info[]	List of pathnames to query. The function returns the file-retention-information for each of these pathnames. If this ZAPI function is called without any input parameter, the error EAPIMISSINGARGUMENT is returned If number of input pathnames exceeds max-list-entries an error of EAPITOOMANYENTRIES is returned. The value of max-list-entries can be retrieved using the zapi call file-get-snaplock-retention-time-list-info-max.

Output Name	Range	Type	Description
file-retention-details		file-retention-info[]	information about retention period for each file in the list

Errno	Description
EAPIMISSINGARGUMENT	

EAPITOOMANYENTRIES	

Vfiler-enabled
Yes

snaplock-archive-vserver-log

[top]

Archive the active worm log file. This will close the current log file for furthur updates and it will open a new log file to write future log updates A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
base-name		string optional	Base Name of Log File

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_NOT_CONFIGURED	

snaplock-create-vserver-log

[top]

Create audit log configuration for a Vserver.

Input Name	Range	Type	Description
default-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are : • 'seconds' • 'minutes' • 'hours' • 'days' • 'months'

			• 'years' For example, a value if **6months** represents a retention period of 6 months.
max-log-size		size optional	Max log file size (in bytes).
volume		volume-name	Log Volume Name

Output Name	Range	Type	Description
result		snaplock-vserver-log-config optional	The snaplock created (keys or the entire object if requested)
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this snaplock.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_ALREADY_CONFIGURED	
E_AUDIT_LOG_VOL_NOT_SLC	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
SnapLock

snaplock-destroy-vserver-log

[top]

Delete audit log configuration for a Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	

E_AUDIT_LOG_ALREADY_CONFIGURED
EVSERVER_LOCKED_FOR_BASELINE
EVSERVER_OPERATION_NOT_PERMITTED

License
SnapLock

snaplock-download-check-version

[top]

Check version being downloaded for snaplock compliance.

Input Name	Range	Type	Description
version		string	The version of the kernel being installed

snaplock-event-retention-abort

[top]

The snaplock-event-retention-abort API can be used to abort an ongoing Event Based Retention operation. This API only aborts operations that have started and not finished. The operation ID of the operation must be specified.

Input Name	Range	Type	Description
operation-id	**[0..2^32-1]**	integer	Operation ID of SnapLock Event Based Retention operation to be aborted.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-event-retention-apply-start

[top]

The snaplock-event-retention-apply-start API can be used to apply an Event Based Retention policy to files present under the specified path. Use the snaplock-event-retention-show API to display the status of the operation.

Input Name	Range	Type	Description
path		string	Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path.
policy-name		string	Name of the SnapLock Event Based Retention policy.
volume		string	Name of the SnapLock Volume.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	Operation ID of the SnapLock Event Based Retention operation.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-event-retention-get-iter

[top]

This API can be used to display the status of an Event Based Retention operation.

Input Name	Range	Type	Description
desired-attributes		snaplock-event-retention-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-event-retention-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-event-retention-info[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEDOESNOTEXIST	
EONTAPI_ENOENT	

EONTAPI_EINVAL	

snaplock-event-retention-policy-create

[top]

Create SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
name		string	Name of the SnapLock Event Based Retention policy.
retention-period		snaplock-minmax-period	Retention period of the SnapLock Event Based Retention policy.
return-record		boolean optional	If set to true, returns the snaplock-event-retention-policy on successful creation. Default: false

Output Name	Range	Type	Description
result		snaplock-event-retention-policy-info optional	The snaplock-event-retention-policy created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EDUPLICATEENTRY	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snaplock-event-retention-policy-destroy

[top]

Delete SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
name		string	Name of the SnapLock Event Based Retention policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snaplock-event-retention-policy-get-iter

[top]

Get SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
desired-attributes		snaplock-event-retention-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-event-retention-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock-event-retention-policy object. All snaplock-event-retention-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-event-retention-policy-info[] optional	The list of attributes of snaplock-event-retention-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock-event-retention-policy objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snaplock-event-retention-policy-modify

[top]

Modify SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
name		string	Name of the SnapLock Event Based Retention policy.
retention-period		snaplock-minmax-period optional	Retention period of the SnapLock Event Based Retention policy.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snaplock-file-privileged-delete

[top]

Executes a privileged delete on a SnapLock file A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
file		string	Full path of the file that needs to be deleted

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EONTAPI_ENXIO	
EONTAPI_EIO	
EONTAPI_EINVAL	
EINTERNALERROR	
EAPIERROR	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EONTAPI_EOFFLINE	
EONTAPI_ENOMEM	
EOPNOTSUPPORTED	
EONTAPI_EPERM	
EONTAPI_EACCES	
EONTAPI_EWORMNOCLOCK	

snaplock-get-clock-ntp-sync

[top]

Display the NTP sync option setting.

Input Name	Range	Type	Description
desired-attributes		snaplock-clock-ntp-sync optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snaplock-clock-ntp-sync	The attributes of the snaplock.

Errno	Description
EINTERNALERROR	

snaplock-get-compliance-clock

[top]

Older API to get the system complaince Clock time. Now depricated. Use snaplock-get-system-compliance-clock and snaplock-get-volume-compliance-clock.

Errno	Description
EAPINOTIMPLEMENTED	

snaplock-get-file-retention

[top]

Get retention time of a file protected by SnapLock.

Input Name	Range	Type	Description
desired-attributes		snaplock-file-retention-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
file		string	Specifies the absolute path of the file. The value begins with /vol/.

Output Name	Range	Type	Description
attributes		snaplock-file-retention-info	The attributes of the snaplock.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snaplock-get-node-compliance-clock

[top]

Get the SnapLock Node ComplianceClock date and time.

Input Name	Range	Type	Description
node		node-name	Name of the node on which the ComplianceClock needs to be fetched.

Output Name	Range	Type	Description
snaplock-node-compliance-clock		compliance-clock-info	Node ComplianceClock

Errno	Description
ESNAPLOCKNOTLICENSED	
ECOMPLIANCECLOCKNOTSET	

snaplock-get-system-compliance-clock

[top]

Get the SnapLock System Compliance Clock date and time.

Output Name	Range	Type	Description
system-compliance-clock		compliance-clock-info	System Compliance Clock.

Errno	Description
EONTAPI_EWORMVOLNOTWORM	

Vfiler-enabled
Yes

snaplock-get-volume-compliance-clock

[top]

Get the SnapLock Volume Compliance Clock date and time.

Input Name	Range	Type	Description
volume		string	Name of the volume whose ComplianceClock needs to be obtained.

Output Name	Range	Type	Description
system-compliance-clock		compliance-clock-info	System Compliance Clock.
volume-compliance-clock		compliance-clock-info	Volume Compliance Clock for input volume list.

Vfiler-enabled

Yes

snaplock-get-vserver-active-log-files-iter

[top]

Display Status of Active SnapLock Log Files.

Input Name	Range	Type	Description
desired-attributes		snaplock-vserver-log-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-vserver-log-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-vserver-log-file[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snaplock-get-vserver-log-iter

[top]

Display audit Log configuration.

Input Name	Range	Type	Description
desired-attributes		snaplock-vserver-log-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
		snaplock-vserver-	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All

query		log-config optional	snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-vserver-log-config[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snaplock-legal-hold-abort

[top]

This API is used to abort an ongoing legal-hold operation. This API only aborts legal-hold operations that have started and not finished. The operation ID of the legal-hold operation must be specified.

Input Name	Range	Type	Description
operation-id	**[0..2^32-1]**	integer	Operation ID of snaplock legal-hold operation.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

snaplock-legal-hold-begin-start

[top]

This API starts an operation to put files in user specified path under legal-hold. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

Input Name	Range	Type	Description
litigation-name		string	Name of the litigation.
path		string	Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path.
volume		string	Name of the SnapLock compliance volume, on which legal-hold

			operation is to be performed.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	Operation ID of the legal-hold operation.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-dump-files-start

[top]

Dump the list of files under legal hold for a given volume and litigation to a user specified output path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

Input Name	Range	Type	Description
litigation-name		string	Name of the litigation, for which the list of files is to be dumped.
output-directory-path		string	Path of the form '/' relative to output volume root, where list of files is to be dumped.
output-volume		string	Name of the output volume, containing the path where list of files is to be dumped.
volume		string	Name of the SnapLock compliance volume, for which the list of files is to be dumped.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	operation ID of Dump Files Operation

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-dump-litigations-start

[top]

Dump the list of litigations to a user specified output path. The progress of the operation can be monitored using job-get api. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
output-directory-path		string	Path of the form '/' relative to volume root, where list of litigations is to be dumped.
output-volume		string	Name of the output volume, containing the path where list of litigations is to be dumped.
volume		string optional	Name of the SnapLock compliance volume for which the list of litigations is to be dumped.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-end-start

[top]

This API starts an operation to release legal-hold on files in user specified path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

Input Name	Range	Type	Description
litigation-name		string	Name of the litigation.
path		string	Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path.
volume		string	Name of the SnapLock compliance volume, on which legal-hold operation is to be performed.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	Operation ID of the legal-hold operation.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-get-iter

[top]

This API is used to retrieve the status of legal-hold operations.

Input Name	Range	Type	Description
desired-attributes		snaplock-legal-hold-attributes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-legal-hold-attributes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-legal-hold-attributes-info[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	

EONTAPI_EINVAL	

snaplock-modify-clock-ntp-sync

[top]

Modify the NTP sync option.

Input Name	Range	Type	Description
is-sync-enabled		boolean optional	Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

snaplock-modify-vserver-log

[top]

Modify audit log configuration for a Vserver.

Input Name	Range	Type	Description
default-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are : • 'seconds' • 'minutes' • 'hours' • 'days' • 'months' • 'years' For example, a value if **6months** represents a retention period of 6 months.
max-log-size		size optional	Max log file size (in bytes).
volume		volume-name optional	Log Volume Name

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the modification operation caused an error.
result-error-message		string optional	Error description, if the modification operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_NOT_CONFIGURED	
E_AUDIT_LOG_VOL_NOT_SLC	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
SnapLock

snaplock-set-file-retention

[top]

Set retention time of a file. User can specify either retention-time or set-infinite-retention or set-unspecified-retention. If none of the retention time parameters are specified, the file will get committed to WORM with default retention period.

Input Name	Range	Type	Description
file		string	Specifies the absolute path of the file. The value begins with /vol/.
retention-time		integer optional	Specifies the retention time of the file in seconds since 1 January 1970 00:00:00.
set-infinite-retention		boolean optional	Indicates if the retention time on the file needs to be extended to infinite retention time.
set-unspecified-retention		boolean optional	Indicates that the retention time is unspecified.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_NOT_CONFIGURED	

snaplock-set-node-compliance-clock

[top]

Set the ComplianceClock of the node equal to the current system clock.

Input Name	Range	Type	Description
node		node-name	Name of the node on which the ComplianceClock needs to be set.

Errno	Description

ESNAPLOCKNOTLICENSED	
EALREADYSTARTED	
ECOMPLIANCECLOCKNOTSET	
EONTAPI_EIO	

snaplock-set-system-compliance-clock

[top]

Set the Compliance Clock of the system equal to the current system clock.

Errno	Description
ESNAPLOCKNOTLICENSED	
EALREADYSTARTED	
ECOMPLIANCECLOCKNOTSET	
EONTAPI_EIO	

snaplock-volume-set-privileged-delete

[top]

The volume-set-privileged-delete API is used to set the SnapLock privileged-delete attibute on a Snaplock enterprise volume. The privileged-delete attibute can be set to one of the following values:

- enabled
- disabled
- permanently-disabled

If privileged-delete is 'enabled' on a SnapLock enterprise volume, the user is allowed to perform privileged-delete operation on that volume. If privileged-delete is set to 'disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation on that volume. If privileged-delete is 'permanently-disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation or further change the privileged-delete attribute on that volume. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
state		string	Privileged-delete attribute on the SnapLock enterprise volume. The privileged-delete can be set to one of the following: • enabled • disabled • permanently-disabled
volume		string	Specifies the name of the SnapLock enterprise volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
	[0..2^64-	integer	

result-jobid	**1]**	optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

License
SnapLock

volume-get-snaplock-attrs

[top]

Returns snaplock attributes of a given snaplock volume.

Input Name	Range	Type	Description
volume		volume-name	Name of the snaplock volume.

Output Name	Range	Type	Description
snaplock-attrs		snaplock-attrs-info	Snaplock attributes of the volume.

volume-set-snaplock-attrs

[top]

Sets the given snaplock attributes of a snaplock volume.

Input Name	Range	Type	Description
autocommit-period		snaplock-autocommit-period optional	Specifies the autocommit-period for the snaplock volume. All files which are not modified for a period greater than the autocommit-period of the volume are committed to WORM state. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **2hours** represents a autocommit period of 2 hours. This option can also be specified as "none" indicating that autocommit is disabled on the snaplock volume Attributes: non-creatable, modifiable
			Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention

default-retention-period		snaplock-default-period optional	retention time set. If this option is specified as "min", then minimum-retention-period will be used as the default retention period. If this option is specified as "max", then maximum-retention-period will be used as the default retention period. If this attribute is specified as "infinite", the infinite retention period as the default retention period. If this attribute is specified as "unspecified", then unspecified retention period will be set as default retention period. This option can also be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "seconds" • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **6months** represents a retention period of 6 months. Attributes: non-creatable, modifiable
is-volume-append-mode-enabled		boolean optional	Specifies if the volume append mode must be enabled or disabled. It can be modified only when the volume is not mounted and does not have any data or Snapshot copy. Volume append mode is not supported on SnapLock audit log volumes. When it is enabled, all files created with write permissions on the volume will be WORM appendable files by default. All WORM appendable files not modified for a period greater than the autocommit period of the volume are also committed to WORM read-only state. Attributes: non-creatable, modifiable
maximum-retention-period		snaplock-minmax-period optional	Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "seconds" • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have maximum retention period as infinite. This attribute is not applicable while extending retention period of an already committed WORM file. Attributes: non-creatable, modifiable
minimum-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "seconds" • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have minimum retention period as infinite. This attribute is not applicable while extending retention period of an already

			committed WORM file. Attributes: non-creatable, modifiable
volume		volume-name	Name of the snaplock volume.

Element definition: **compliance-clock-info**

[top]

Compliance Clock

Name	Range	Type	Description
formatted-snaplock-compliance-clock		string	If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized.
snaplock-compliance-clock		integer optional	If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1].

Element definition: **file-retention-info**

[top]

retention information for each file

Name	Range	Type	Description
formatted-retention-time		string optional	expiry date of the worm file formatted in a human-readable format. This takes care of wrap-around dates and prints the expiry date of the file in the the format :: A value of "INFINITE" indicates that this file has infinite retention-time. A value of "unspecified" indicates that this file has unspecified retention-time. This field is not included in non-worm files (when snaplock-type is NONE).
is-wraparound		boolean optional	True if the date represented in retention-time is a wrap-around date. This field is not included in case the file is not a worm file or if it has infinite retention.
pathname		string	pathname of the file. This will always have the same format and values as the input pathname-info array.
retention-time		integer optional	retention time in seconds in the standard UNIX format (since 01/01/1970 00:00:00). SnapLock wraps around the retention time to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071 This field is not included in case the file is not a worm file or if the file has infinite retention. The flag is-wraparound indicates if this date is in the normal format or is wrapped around. The field formatted-retention-time represents the date as understood by SnapLock for retention of the file. Range: [0..2^64-1]
snaplock-error		snaplock-error optional	This value is only present if there is an error for a specific pathname entry. Error numbers returned EFILENOTFOUND, EINVALIDINPUTERROR, EVOLUMEOFFLINE, EVOLUMEDOESNOTEXIST, EVOLUMEQUIESCED, EINTERNALERROR
snaplock-type		string optional	type of snaplock license applicable for this file Possible values "SLC" - indicates it is a worm file with snaplock compliance restrictions applying to it. "SLE" - indicates it is a worm file with snaplock enterprise restrictions applying to it. "NONE" - Not a worm file

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplock-attrs-info**

[top]

SnapLock Attributes

Name	Range	Type	Description
autocommit-period		snaplock-autocommit-period optional	Specifies the autocommit period for the SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to WORM state. Attributes: non-creatable, modifiable
default-retention-period		snaplock-default-period optional	Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention retention time set. Attributes: non-creatable, modifiable
is-audit-log-volume		boolean optional	Specifies if volume is a SnapLock audit volume. Attributes: non-creatable, non-modifiable
is-volume-append-mode-enabled		boolean optional	Specifies if the volume append mode is enabled or disabled. Attributes: non-creatable, modifiable
is-volume-expiry-time-indefinite		boolean optional	Indicates if the volume expiry time is indefinite or not. Attributes: non-creatable, non-modifiable
is-volume-expiry-time-infinite		boolean optional	Indicates if the volume expiry time is infinite or not. Attributes: non-creatable, non-modifiable
litigation-count		string optional	Specifies the number of litigations on Snaplock Volume. Attributes: non-creatable, non-modifiable
maximum-retention-period		snaplock-minmax-period optional	Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable
minimum-retention-period		snaplock-minmax-period	Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable

		optional	
privileged-delete-state		string optional	Specifies the prvileged delete state on Snaplock Volume.
type		snaplocktype optional	SnapLock Type of the given volume. Attributes: non-creatable, non-modifiable Possible values: • "non_snaplock" , • "compliance" , • "enterprise"
unspecified-retention-file-count		string optional	Specifies the number of files with unspecified retention time. Attributes: non-creatable, non-modifiable
volume-compliance-clock		compliance-clock-info optional	Specifies the volume ComplianceClock of the volume. Attributes: non-creatable, non-modifiable
volume-expiry-time		string optional	Specifies the expiry time of the volume. Attributes: non-creatable, non-modifiable
volume-expiry-time-secs		integer optional	Specifies the expiry time of the volume in seconds. if the expiry time is infinite or indefinite, then no value will be returned. Attributes: non-creatable, non-modifiable

Element definition: **snaplock-autocommit-period**

[top]

Snaplock Autocommit Period

[none]

Element definition: **snaplock-clock-ntp-sync**

[top]

Information about ComplianceClock sync setting. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-sync-enabled		boolean optional	Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured Attributes: non-creatable, modifiable

Element definition: **snaplock-default-period**

[top]

Snaplock default retention period

[none]

Element definition: **snaplock-event-retention-info**

[top]

SnapLock Event Based Retention operation information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
num-files-failed	**[0..2^32-1]**	integer optional	Number of files on which the application of Event Based Retention policy failed. Attributes: non-creatable, non-modifiable
num-files-processed	**[0..2^32-1]**	integer optional	Number of files on which the Event Based Retention policy has been applied successfully. Attributes: non-creatable, non-modifiable
num-files-skipped	**[0..2^32-1]**	integer optional	Number of files on which the application of Event Based Retention policy was skipped. Attributes: non-creatable, non-modifiable
num-inodes-ignored	**[0..2^32-1]**	integer optional	The total count of inodes which were ignored during application of Event Based Retention policy because they are not regular files. Attributes: non-creatable, non-modifiable
operation-id	**[0..2^32-1]**	integer optional	Operation ID of SnapLock Event Based Retention operation. Attributes: key, non-creatable, non-modifiable
operation-status		wormopstatus optional	Status of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "in_progress" , • "failed" , • "aborting" , • "completed"
path		string optional	Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path. Attributes: non-creatable, non-modifiable
policy-name		string optional	Name of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable
retention-period		snaplock-minmax-period optional	Retention period of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable
status-details		string optional	Status details of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable
volume		volume-name optional	Name of the SnapLock Volume. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-event-retention-policy-info**

[top]

Information about SnapLock Event Based Retention policies. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
name		string optional	Name of the SnapLock Event Based Retention policy. Attributes: key, required-for-create, non-modifiable
retention-period		snaplock-minmax-period optional	Retention period of the SnapLock Event Based Retention policy. Attributes: required-for-create, modifiable
vserver		vserver-name optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-file-retention-info**

[top]

Information about retention time of a file protected by SnapLock. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
file		string optional	Specifies the absolute path of the file. The value begins with /vol/. Attributes: key, non-creatable, non-modifiable
formatted-retention-time		string optional	Specifies the expiry date of the file in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. Attributes: non-creatable, non-modifiable
is-wraparound		boolean optional	Specifies the value true if the date represented in retention time is in wraparound format. The wraparound format indicates that dates after 19 January 2038 are mapped from 1 January 1970 - 31 December 2002 to 19 January 2038 - 19 January 2071. Attributes: non-creatable, non-modifiable

retention-time	**[0..2^64-1]**	integer optional	Specifies the retention time of the file in seconds since 1 January 1970 00:00:00. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Specifies the name of the Vserver which has the file. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-legal-hold-attributes-info**

[top]

SnapLock legal-hold attributes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
litigation-name		string optional	Name of the litigation. Attributes: non-creatable, non-modifiable
num-files-failed	**[0..2^32-1]**	integer optional	The total count of files for which legal-hold operation failed. Attributes: non-creatable, non-modifiable
num-files-processed	**[0..2^32-1]**	integer optional	The total count of files for which legal-hold operation was performed. Attributes: non-creatable, non-modifiable
num-files-skipped	**[0..2^32-1]**	integer optional	The total count of files for which legal-hold operation was skipped. Attributes: non-creatable, non-modifiable
num-inodes-ignored	**[0..2^32-1]**	integer optional	The total count of inodes which were ignored by legal-hold operation because they are not regular files. Attributes: non-creatable, non-modifiable
operation-id	**[0..2^32-1]**	integer optional	Operation ID of the legal-hold operation. Attributes: key, non-creatable, non-modifiable
operation-status		wormopstatus optional	Status of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "in_progress" , • "failed" , • "aborting" , • "completed"
operation-type		wormlegalop optional	Type of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "begin" , • "end" , • "dump_files"
path		string optional	Path of the form '/' relative to volume root. Attributes: non-creatable, non-modifiable
status-details		string optional	Completion string of the legal-hold operation. Attributes: non-creatable, non-modifiable

volume		volume-name optional	Name of the SnapLock compliance volume, on which legal-hold operation is running. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-minmax-period**

[top]

SnapLock Min and Max retention period

[none]

Element definition: **snaplock-pathname-info**

[top]

pathname info for each file

Name	Range	Type	Description
snaplock-pathname		string	pathname of the file. Pathname must be of the format /vol//

Element definition: **snaplock-vserver-log-config**

[top]

Information about Audit log congfiguration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
default-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number><suffix>' format. Valid values of the suffix are : • 'seconds' • 'minutes' • 'hours' • 'days' • 'months' • 'years' For example, a value if **6months** represents a retention period of 6 months. Attributes: optional-for-create, modifiable
max-log-size		size optional	Max log file size (in bytes). Attributes: optional-for-create, modifiable

volume		volume-name optional	Log Volume Name Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-vserver-log-file**

[top]

Information about Audit log file. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
base-name		snaplock-log-base optional	Base Name of Log File Attributes: key, non-creatable, non-modifiable Possible values: • "privileged_delete" , • "system" , • "legal_hold"
expiry-time		string optional	Log File Expiry Time Attributes: non-creatable, non-modifiable
file-path		string optional	Log File Path Attributes: non-creatable, non-modifiable
file-size		size optional	File Size Attributes: non-creatable, non-modifiable
volume		volume-name optional	Log Volume Name Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **compliance-clock-info** [top]

Compliance Clock

Name	Range	Type	Description
formatted-snaplock-compliance-clock		string	If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized.
snaplock-compliance-clock		integer optional	If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1].

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplock-error** [top]

Information about a single quota error.

Name	Range	Type	Description
errno		integer	The error number Range: [0..2^64-1]
reason		string	A human-readable concise reason for the error.

Element definition: **snaplock-log-base** [top]

privileged-delete | system | legal-hold Possible values:

- "privileged_delete" ,
- "system" ,
- "legal_hold"

[none]

Element definition: **snaplock-minmax-period** [top]

SnapLock Min and Max retention period

[none]

Element definition: **snaplocktype** [top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **wormlegalop** [top]

unknown|begin|end|dump-files Possible values:

- "unknown" ,
- "begin" ,
- "end" ,
- "dump_files"

[none]

Element definition: **wormopstatus** [top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

APIs in Category: **snapmirror**

snapmirror-abort
snapmirror-abort-async
snapmirror-abort-iter
snapmirror-break
snapmirror-break-async
snapmirror-break-iter
snapmirror-capabilities-get
snapmirror-capabilities-get-iter
snapmirror-check
snapmirror-check-iter
snapmirror-config-replication-cluster-storage-configuration-get
snapmirror-config-replication-cluster-storage-configuration-modify
snapmirror-cr-status-aggregate-eligibility-get
snapmirror-cr-status-aggregate-eligibility-get-iter
snapmirror-cr-status-comm-get
snapmirror-cr-status-comm-get-iter
snapmirror-cr-status-get
snapmirror-create
snapmirror-delete-connection
snapmirror-delete-schedule
snapmirror-delete-sync-schedule
snapmirror-destroy
snapmirror-destroy-async
snapmirror-destroy-iter
snapmirror-get
snapmirror-get-destination
snapmirror-get-destination-iter
snapmirror-get-dp-personality
snapmirror-get-iter
snapmirror-get-status
snapmirror-get-total-records
snapmirror-get-volume-status

This set of APIs allows to manage SnapMirror relationships on Data ONTAP operating in 7-Mode or in Cluster-Mode. This includes the creation, initialization, update, resynchronization, modification of configuration parameters, and information query.

The user's role determines the APIs that can be issued. In general APIs that simply query status information about SnapMirror relationships only require that the user has read access. APIs that modify the state of the system require write access. This includes creation, destruction, modification or update of relationships.

A valid SnapMirror license is necessary to be able to use APIs that create, initialize, or destroy SnapMirror relationships. Most of the APIs require that you specify at least one of the endpoints of the SnapMirror relationship. On Data ONTAP operating in 7-Mode, the endpoint can be a volume or a qtree. On Data ONTAP operating in Cluster-Mode the endpoint can only be a volume.

An endpoint can be specified by providing its location in a path format. The format depends on the version of Data ONTAP and the mode it is operating in:

On Data ONTAP operating in 7-Mode the format is: <system>:/vol/<volume>[/<qtree>] where 'system' is the name of the storage system; 'volume' is the name of the volume, and 'qtree' the name of the qtree.

On Data ONTAP 8.1 operating in Cluster-Mode, the format is: [<cluster>:]//<vserver>/<volume> where 'cluster' is the name of the cluster, 'vserver' the name of the Vserver, 'volume' is the name of the volume.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the format of the path is: [<vserver>:]<volume> where 'vserver' is the name of the Vserver, 'volume' is the name of the volume. Note that this requires the Vserver peering capability, which handles the mapping of a Vserver to the right cluster. The control plane for these relationship is specific to Data ONTAP 8.2 and later. The progress of long operations such as initialize, update, resync, or restore is monitored via the snapmirror-get API. The relationship-control-plane field is set to 'v2'. For backward compatibility with Data ONTAP 8.1 operating in Cluster-Mode, and to accommodate load-sharing relationships which are only supported in a Data ONTAP 8.1 compatible way, the relationships that match one of the following conditions are managed as on Data ONTAP 8.1 operating Cluster-Mode. The control plane of these relationships is compatible with Data ONTAP 8.1 operating Cluster-Mode.

- Load-sharing relationship.
- Cross-cluster relationship with the source endpoint on Data ONTAP 8.1 operating in Cluster-Mode.
- Relationship existed before the local cluster was upgraded from Data ONTAP 8.1 operating in Cluster-Mode and has not yet been converted to one with Data ONTAP 8.2 capabilities.

snapmirror-history-get
snapmirror-history-get-iter
snapmirror-initialize
snapmirror-initialize-iter
snapmirror-initialize-ls-set
snapmirror-list-connections
snapmirror-list-destinations
snapmirror-list-schedule
snapmirror-list-sync-schedule
snapmirror-list-unprotected
snapmirror-modify
snapmirror-modify-iter
snapmirror-off
snapmirror-on
snapmirror-promote
snapmirror-promote-iter
snapmirror-protect
snapmirror-quiesce
snapmirror-quiesce-iter
snapmirror-release
snapmirror-release-iter
snapmirror-restore
snapmirror-resume
snapmirror-resume-iter
snapmirror-resync
snapmirror-resync-iter
snapmirror-set-connection
snapmirror-set-schedule
snapmirror-set-sync-schedule
snapmirror-snapshot-owner-create
snapmirror-snapshot-owner-destroy
snapmirror-snapshot-owner-get
snapmirror-snapshot-owner-get-snapshots
snapmirror-throttle
snapmirror-update
snapmirror-update-iter
snapmirror-update-ls-set

The path format of Data ONTAP 8.1 operating in Cluster-Mode must be used. Long operations such as initialize, update, resync, restore spawn a job. The job API must be used to track the progress of the operation. The relationship-control-plane field is set to 'v1' for these relationships. On Data ONTAP operating in Cluster-Mode, it is also possible to specify the endpoint by providing the names of the cluster, Vserver, and volume of the endpoint separately.

In general it is mandatory to specify the destination endpoint.

Beginning with ONTAP 9.1, you can no longer create new load-sharing mirrors for data volumes. Existing load-sharing mirrors for data volumes are supported through the ONTAP 9.4 release. Load-sharing mirrors for Vserver root volume protection continue to be supported as a NetApp best practice.

snapmirror-abort

[top]

The snapmirror-abort API stops ongoing transfers for a SnapMirror relationship. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using snapmirror-abort. On Data ONTAP operating in Cluster-Mode, the snapmirror-abort API stops all of the active transfers to each associated volume on the receiving side in a set of load-sharing mirrors. Load-sharing mirrors are either up to date and serving data to clients, or they are lagging and not serving data to clients. If the snapmirror-abort API identifies an up-to-date load-sharing mirror, then SnapMirror transfers to associated up-to-date load-sharing mirrors in the set of load-sharing mirrors are also aborted. If the snapmirror-abort API identifies a lagging load-sharing mirror, then only the SnapMirror transfer associated with the lagging load-sharing mirror is aborted. After the snapmirror-abort API successfully completes its operation, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer. Snapmirror-abort API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, from the destination Vserver or cluster on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

Input Name	Range	Type	Description
check-only		boolean optional	If this option is specified true, only snapmirror-check operations active on the relationship will be aborted.
clear-checkpoint		boolean optional	If true, the restart checkpoint is cleared. The default is false, not cleared. This parameter is not supported for relationships with non_Data ONTAP endpoints.
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
			Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:

destination-volume		string optional	• The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. This parameter is not supported if the source is a non-Data ONTAP endpoint.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the source volume.

			• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
ESNAPMIRRORERR	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LS_VOLUME	
EANOTHER_OP_ACTIVE	
ENOTRANSFER_IN_PROGRESS	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled
Yes

snapmirror-abort-async

[top]

The snapmirror-abort-async API stops ongoing transfer for a SnapMirror relationship on Infinite Volume. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using the snapmirror-abort-async API. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

Snapmirror-abort-async API must be used from the destination cluster on Data ONTAP Cluster-Mode. For Infinite volume SnapMirror relationships,

- after the snapmirror-abort-async API successfully aborted the transfer, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
check-only		boolean optional	If this option is specified true, only snapmirror-check operations active on the relationship will be aborted.
			If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy

clear-checkpoint		boolean optional	that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This parameter is not supported for relationships with non-Data ONTAP endpoints.
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.

destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

			• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	

snapmirror-abort-iter

[top]

The snapmirror-abort-iter API aborts SnapMirror transfers for one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
check-only		boolean optional	If this option is specified true, only snapmirror-check operations active on the relationship will be aborted.
clear-checkpoint		boolean optional	If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This

			parameter is not supported for relationships with non-Data ONTAP endpoints.
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-abort-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-abort-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-break

[top]

Breaks a SnapMirror relationship between a source and destination volume data protection mirror. When Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy.

On Data ONTAP operating in 7-Mode, no check is done to determine whether the operation is legal or successful. You need to query the status afterward by using the snapmirror-get-status API.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is re-established using the snapmirror-resync API.

On Data ONTAP operating in Cluster-Mode, this API applies only to data protection mirrors and not to load-sharing mirrors.

The snapmirror-break API must be issued on destination storage system on Data ONTAP operating in 7-Mode, and on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination cluster or Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

This API is not supported if the destination is a non-Data ONTAP endpoint.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, If the destination endpoint is a qtree, it must be quiesced using snapmirror-quiesce. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.

			This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
recover		boolean optional	When a SnapMirror break operation fails on a FlexGroup relationship, a subset of the consituents could have been made writable and subsequently user data could have been written to these constituents. To recover from this failure, the break command can be executed again specifying the recover parameter. All constituents will be restored to the latest Snapshot copy, and any writes to the read-write constituents will be lost. This parameter is applicable only for SnapMirror relationships with FlexGroup endpoints. This field only applies on Data ONTAP 9.1 or later.
restore-destination-to-snapshot		string optional	Specifies the Snapshot copy to which the destination volume is restored after a successful break operation. If the parameter is not specified, the destination is restored to the latest Snapshot copy. This parameter is not supported for FlexGroup relationships.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-

			Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
ESNAPMIRRORERR	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_LS_VOLUME	
EDEST_IS_EXISTING_SOURCE_VOLUME	
EANOTHER_OP_ACTIVE	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
EPUSHMSG_ABORTED	

Vfiler-enabled
Yes

snapmirror-break-async

[top]

The snapmirror-break-async API breaks a SnapMirror relationship between a source Infinite Volume and a destination Infinte volume or a source Vserver and destination Vserver. For Infinite volume SnapMirror relationship, when Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy. You must specify the destination endpoint when using snapmirror-break-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinte volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3.1 or later.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is reestablished using the snapmirror-resync API. This API applies only to data protection mirrors for Infinite Volumes and data protection relationships for Vservers. You must use the snapmirror-break-async API from the destination cluster. For volume level relationship, this API is not supported

- on Infinite Volume constituents.
- if the destination end point is a flexible volume.
- if the destination end point is a FlexGroup or FlexGroup constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
			Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:

destination-vserver		string optional	• The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
recover		boolean optional	Recover
restore-destination-to-snapshot		string optional	Restore Destination to Snapshot Copy
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in

			Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_BREAK_INCOMPLETE	
EVSERVERDR_VSERVER_NOT_INITIALIZED	
EVSERVERDR_RELATIONSHIP_MODIFY_FAILED	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	

snapmirror-break-iter

[top]

The snapmirror-break-iter API breaks one or more SnapMirror relationships.

Input Name	Range	Type	Description
			This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with

continue-on-failure		boolean optional	the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
recover		boolean optional	Recover
restore-destination-to-snapshot		string optional	Restore Destination to Snapshot Copy
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-break-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-break-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-capabilities-get

[top]

The snapmirror-capabilities-get API returns capabilities information for an endpoint type. It is supported only for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume, or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

Input Name	Range	Type	Description
desired-attributes		snapmirror-capabilities-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
endpoint-type		smendpointtype	Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Possible values: • "flexvol" , • "object_store"

Output Name	Range	Type	Description
attributes		snapmirror-capabilities-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapmirror-capabilities-get-iter

[top]

The snapmirror-capabilities-get API returns capabilities information for one or more endpoint types. It is only supported for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

Input Name	Range	Type	Description
desired-attributes		snapmirror-capabilities-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-capabilities-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-capabilities-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapmirror-check

[top]

The snapmirror-check API starts an operation to compare the contents of a snapshot between the source volume and destination volume. You must specify the destination endpoint when using snapmirror-check.

It is also possible to use the snapmirror-check command to compare only the contents of specific files or LUNs in specific Snapshot copies. A file-level check is run when the check-file-list, source-path, source-snapshot, and target-snapshot parameters are specified. Only the contents of the files specified in check-file-list are compared. You can also run a file-level check between volumes that are not in a SnapMirror relationship.

This API is not supported for relationships with AltaVault endpoints.

For FlexGroup relationships, there is no support in the checker to check the relationship at the FlexGroup level. The checker must be run on the constituent level relationships which are returned when the snapmirror-get-iter API specifying the expand parameter is used.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
check-file-list		snapmirror-file-path[] optional	Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it.

			Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later

			operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later.
skip-se-check		boolean optional	Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume

			are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-snapshot		string optional	Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.
target-snapshot		string optional	Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_IS_DIFFERENT	
EDEST_VOLUME_NOT_INITIALIZED	
EOP_FROM_NONMGR_VSERVER	

snapmirror-check-iter

[top]

The snapmirror-check-iter API checks one or more SnapMirror relationships. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
check-file-list		snapmirror-file-path[] optional	Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not

			provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
skip-se-check		boolean optional	Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later.
source-snapshot		string optional	Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
target-snapshot		string optional	Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check.

Output Name	Range	Type	Description
failure-list		snapmirror-check-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-check-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-config-replication-cluster-storage-configuration-get

[top]

The snapmirror-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-storage-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-cr-storage-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-config-replication-cluster-storage-configuration-modify

[top]

The snapmirror-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

Input Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-cr-status-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

Input Name	Range	Type	Description
aggregate		aggr-name	The aggregate being evaluated for config-replication volume hosting eligibility.
desired-attributes		snapmirror-cr-status-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-cr-status-aggregate-eligibility-info	The attributes of the snapmirror-cr-status-aggregate-eligibility.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-cr-status-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-cr-status-aggregate-eligibility-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-cr-status-aggregate-eligibility object. All snapmirror-cr-status-aggregate-eligibility objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		snapmirror-cr-status-	

attributes-list		aggregate-eligibility-info[] optional	The list of attributes of snapmirror-cr-status-aggregate-eligibility objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror-cr-status-aggregate-eligibility objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-cr-status-comm-get

[top]

Obtain the results of the SnapMirror config replication status check.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-comm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-cluster-uuid		string	The UUID of the peer cluster destination for SnapMirror configuration replication.

Output Name	Range	Type	Description
attributes		snapmirror-cr-status-comm-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-cr-status-comm-get-iter

[top]

Obtain the results of the SnapMirror config replication status check.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-comm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-cr-status-comm-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-cr-status-comm-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-cr-status-get

[top]

Obtain the results of the SnapMirror config replication status check.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-cr-status-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-create

[top]

The snapmirror-create API creates a SnapMirror relationship between a source and destination volume or Vserver. The following types of relationships can be created:

- 'data_protection' - For Disaster Recovery (DR);
- 'load_sharing' - For load-sharing within the same Vserver;
- 'vault' - For Vault;
- 'transition_data_protection' - For 7-mode to Cluster-Mode transition;
- 'restore' - For restoring a data protection (DP) volume data;
- 'extended_data_protection' - For extended data protection;

With Data ONTAP 9.5 or later, when a new relationship is created with 'extended_data_protection' as the type and no policy is specified, the system policy 'MirrorAndVault' will be used. With Data ONTAP 9.3 or later, when a new relationship is created with 'data_protection' as type, an 'extended_data_protection' relationship will be created. This relationship will provide the same functional behavior as the 'data_protection' type in terms of Snapshot copy selection and retention. This is achieved by using a policy which has the rule to replicate all Snapshot copies. The SnapMirror create will fail if the policy specified does not have the rule to replicate all Snapshot copies. There is an exception to this overriding of the 'data_protection' type. If a relationship of type 'data_protection' in the opposite direction already exists, the new relationship will also be of type 'data_protection'. The 'data_protection' type is deprecated and applications should use the 'extended_data_protection' type when creating new relationships. On Data ONTAP 8.1 operating in Cluster-Mode, only 'data_protection' and 'load_sharing' type are supported. Relationships of type 'restore' are created temporary during a restore operation initiated using the snapmirror-restore API or the corresponding command. The source and destination endpoints must be specified when using the snapmirror-create API. This API will fail if the destination volume does not exist. With Data ONTAP 9.3 or later the following relationships can be created:

- SnapMirror relationships between a Data ONTAP volume and a SolidFire endpoint.
- When a SolidFire endpoint is specified as source or destination, a Data ONTAP volume must be used as the other side of the SnapMirror relationship.

With Data ONTAP 9.1 or later the following relationships can be created:

- SnapMirror relationships between two FlexGroups. FlexGroups only support extended data protection relationships. For FlexGroup relationships, the source and destination FlexGroups must be spread over the same number of aggregates as specified in the volume-create-async API aggr-list parameter with the same number of constituents per aggregate as specified in the volume-create-async API aggr-list-multiplier parameter.
- SnapMirror relationships between a Data ONTAP source volume and an AltaVault destination endpoint.
- When an AltaVault destination is specified, the source must be a Data ONTAP volume.
- An AltaVault source cannot be specified for create.

With Data ONTAP 8.3 or later, you can create a SnapMirror relationship between two Vservers. The destination Vserver will be a backup of the source Vserver's data and configuration. For this, before you use this API, you should have created a source and a destination Vserver. The source Vserver should be a default data Vserver. On Data ONTAP 8.2 operating in Cluster-Mode, the API does not validate the attributes and the existence of the source volume. It will succeed even if the source volume does not exist. The validation will be done at the first transfer time. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if the source volume is not in online state and read-write (RW) type, or the destination volume is not in online state and a DP (Data Protection) type. Note: The source volume might contain data and Snapshot copies prior to creating the SnapMirror relationship. If the destination volume is not empty, it must have a Snapshot copy in common with the source volume, that is, it must have once been a copy of the source volume. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if there is no common Snapshot copy. On Data ONTAP 8.2 operating in Cluster-Mode the API will succeed, but all subsequent transfers will fail if there is no common snapshot copy. Load-sharing mirrors have the following restrictions: - They only use FlexVol volumes. - They are confined to a single Vserver; they are not allowed to span Vservers. - The source or destination of a load-sharing relationship cannot be the source or destination of any other SnapMirror relationship. A set of load-sharing mirrors can have one or more destination volumes. You create separate SnapMirror relationships between the common source volume and each destination volume to create the set of load-sharing mirrors. If the destination volume is empty, it must be initialized using the snapmirror-initialize API. Destination volumes in a set of load-sharing mirrors must be initialized using the snapmirror-initialize-ls-set API. The snapmirror-create API must be issued on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 operating in Cluster-Mode.

Input Name	Range	Type	Description
			Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be

cg-item-mappings		string[] optional	considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,...
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.

destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
identity-preserve		boolean optional	This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false.
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
policy		string optional	Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.
relationship-type		string optional	Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Possible values: • "data_protection" , • "load_sharing" , • "vault" , • "restore" , • "transition_data_protection" , • "extended_data_protection"
return-record		boolean optional	If set to true, returns the snapmirror on successful creation. Default: false

schedule		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationship.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
			Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:

source-vserver		string optional	• The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored.
vserver		string optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context.

Output Name	Range	Type	Description
result		snapmirror-info optional	The snapmirror created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPILICENSE	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_SAME	
ESOURCE_ISNOT_RW_VOLUME	
EDEST_ISNOT_LS_VOLUME	
ESOURCE_IS_DIFFERENT	
ERELATION_EXISTS	
ESOURCE_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_VSERVERS_DIFFERENT	
EDEST_IS_RW_VOLUME	
ESOURCE_IS_STRIPED_VOLUME	
EDEST_IS_STRIPED_VOLUME	
EDEST_VOLUME_HAS_CACHE	
ESOURCE_VOLUME_HAS_CACHE	
EDEST_IS_EXISTING_DEST_VOLUME	
EDEST_VOLUME_NOT_EMPTY	
EDEST_IS_LS_VOLUME	
EDEST_IS_VOLUME_CLONE	
ENOSNAPSHOT_COPY	
EVOLUMES_EMPTY	

EVOLUMES_WITH_DIFF_STRIPES	
ESCHEDULE_DOESNT_EXIST	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_VSR_INFO_GET_FAILED	
EVSERVERDR_SRC_VSERVER_LOCAL	
EVSERVERDR_INCORRECT_SUBTYPE_SRC	
EVSERVERDR_DST_DESTINATION_OF_DR_RELATION	
EVSERVERDR_DST_DESTINATION_OF_VSM_RELATION	
EVSERVERDR_VS_SM_NOT_ALLOWED_IN_VSERVER	
EVSERVERDR_NO_SM_IN_MCC	
EVSERVERDR_CAPABILITY_NOT_ENABLED	
EVSERVERDR_CAPABILITY_NOT_ENABLED_ON_SRC	
EVSERVERDR_GET_OPTIMUM_NODE_FAILED	
EVSERVERDR_ONLY_DP_TYPE_ALLOWED	
ENOT_SUPPORTED_BY_FLEXGROUP_OR_CONSTITUENTS	
ENOT_SUPPORTED_BY_FLEXGROUP_CONSTITUENTS	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
SnapMirror

snapmirror-delete-connection

[top]

Deletes a connection specified by connection. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

Input Name	Range	Type	Description
connection		string	Connection name to delete. The name is in ASCII and must begin with an alpha character.

Vfiler-enabled
Yes

License
replicate

snapmirror-delete-schedule

[top]

Delete the schedule for a given destination. This API must be executed on the destination filer.

Input Name	Range	Type	Description

destination-location		string	The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.

Vfiler-enabled
Yes

License
replicate

snapmirror-delete-sync-schedule

[top]

Delete a synchronous schedule for a given destination. This API must be executed on the destination filer.

Input Name	Range	Type	Description
destination-location		string	The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.

Vfiler-enabled
Yes

License
replicate

snapmirror-destroy

[top]

The snapmirror-destroy API removes only the SnapMirror relationship of a source volume and a destination volume, the volumes are not destroyed and Snapshot copies on the volumes are not removed. In case of a Vserver SnapMirror relationship, this API removes only the relationship between a source and destination Vserver. The Vservers are not destroyed. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. You must specify the destination endpoint when using snapmirror-destroy. On Data ONTAP 8.1 operating in Cluster-Mode, the snapmirror-destroy API fails if a SnapMirror transfer for the SnapMirror relationship is in progress. On Data ONTAP 8.2 operating in Cluster-Mode, the snapmirror-destroy API will attempt to abort any ongoing transfer. However, failure to abort the transfer will not cause the API to fail. A set of load-sharing mirrors might contain multiple destination volumes, each destination volume having a separate SnapMirror relationship with the common source volume. When used on one of the SnapMirror relationships from the set of load-sharing mirrors, the snapmirror-destroy API deletes the specified SnapMirror relationship from the set of load-sharing mirrors. The snapmirror-destroy API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection volume or a load-sharing volume that was a destination of a SnapMirror relationship retains its read-only attributes. Note: When a SnapMirror relationship from a set of load-sharing mirrors is deleted, the destination volume becomes a data protection volume and retains the read-only attributes of a data protection volume. On Data ONTAP 8.2 operating in Cluster-Mode, this API can only be issued on the

destination Vserver. The SnapMirror relationship information is deleted from destination Vserver, but no cleanup or deletion is performed on the source Vserver. The snapmirror-release API must be issued on the source Vserver to delete the relationship information on the source Vserver. On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on the source or on the destination cluster. When issued on the destination cluster, the SnapMirror relationship information on the source and destination clusters is deleted. When issued on the source cluster, only the SnapMirror relationship information on the source cluster is deleted. Note: If the SnapMirror relationship identified by the destination endpoint does not exist, this API will return success. This API is not supported if the destination end point is a Infinite Volume.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in

			Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
			Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:

source-volume		string optional	• The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-operation-id		uuid optional	Result Operation Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPILICENSE	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
ETRANSFER_IN_PROGRESS	
EANOTHER_OP_ACTIVE	
EDEST_VOL_LOCKED	

License
SnapMirror

snapmirror-destroy-async

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The snapmirror-destroy-async API removes the SnapMirror relationship between a source and destination Infinite Volume or a source and destination Vserver. The volumes or Vservers themselves are not destroyed and Snapshot copies on the volumes are not removed. You must specify the destination endpoint when using snapmirror-destroy-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

For Infinite volume SnapMirror relationships,

- snapmirror-destroy-async API fails if a SnapMirror transfer for the relationship is in progress.
- snapmirror-destroy-async API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection

volume that was the destination of a SnapMirror relationship retains its read-only attributes.
- snapmirror-destroy-async API should be used from the destination cluster. When used in this fashion, the destination-side information will be cleaned up. The destination will also attempt to cleanup source-side information. If the source cluster is not available, the destination-side information will still be cleaned up.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

For Vserver SnapMirror relationships,

- snapmirror-destroy-async API can be issued even if a transfer is in progress for the relationship.
- snapmirror-destroy-async API preserves the subtype attribute of the Vserver. Therefore, a default Vserver that was the source of a SnapMirror relationship continues to be of subtype default, and a dp-destination Vserver that was a destination of a SnapMirror relationship continues to be of subtype dp-destination.
- snapmirror-destroy-async API should be used from the destination cluster. This will cleanup the destination-side information for the relationship.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the

			destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.

			This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	

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SnapMirror

snapmirror-destroy-iter

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Removes one or several SnapMirror relationships. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-destroy-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-destroy-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

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SnapMirror

snapmirror-get

[top]

The snapmirror-get API returns information for a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode this API can be issued on the source cluster or destination cluster of the relatonship. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver or the destination cluster of the relationship. The destination endpoint must be specified when using the snapmirror-get API.

Input Name	Range	Type	Description
desired-attributes		snapmirror-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.

			This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or

			later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
attributes		snapmirror-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-get-destination

[top]

The snapmirror-get-destination API returns information about a SnapMirror relationship whose source endpoint is on the cluster or Vserver it is issued on. The destination endpoint must be specified when using this API. The source endpoint can also be specified.

The cluster or Vserver may have several entries for the specified endpoints, but with different relationship IDs. In this case the API returns information about the first entry. To get information about all the SnapMirror relationships matching the specified endpoints, the snapmirror-get-destination-iter API must be used.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode.

This API must be issued on the source Vserver or the source cluster of the relationship.

Input Name	Range	Type	Description
desired-attributes		snapmirror-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume.
destination-volume		string optional	Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter.
destination-vserver		string optional	Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter.

Output Name	Range	Type	Description
attributes		snapmirror-destination-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-get-destination-iter

[top]

The snapmirror-get-destination-iter API returns information about, one or more SnapMirror relationships whose source endpoints are in the Vserver or the cluster the API is issued on.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver. Stale information may result to several entries being returned with the same source and destination endpoints, but with different relationship IDs.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode. It can be issued on a Vserver or a Cluster.

Input Name	Range	Type	Description
desired-attributes		snapmirror-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
expand		boolean optional	Show Constituents of the Group
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-destination-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-destination-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-get-dp-personality

[top]

The snapmirror-get-dp-personality API returns the Data Protection Personality (DP Personality) of the cluster.

This API is supported on Data ONTAP 9.1 or later.

Input Name	Range	Type	Description
desired-attributes		snapmirror-get-dp-personality optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-get-dp-	The attributes of the snapmirror.

		personality	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-get-iter

[top]

The snapmirror-get-iter API returns information for one or several SnapMirror relationships.

On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on a cluster. It returns all SnapMirror relationships that have a source or destination endpoint in that cluster, and that match the parameters specified. On Data ONTAP 8.2 operating in Cluster-Mode, this API can be issued on a Vserver or a cluster. It returns all the SnapMirror relationships, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified.

Input Name	Range	Type	Description
desired-attributes		snapmirror-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
expand		boolean optional	Show Constituents of the Group
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-get-status

[top]

Return the SnapMirror status. This API can be issued on either the source or destination filer.

Input Name	Range	Type	Description
location		string optional	The source location or destination location of the SnapMirror pair. Possible types are volume or qtree only. If this input is provided, only the SnapMirror relationships with a matching source or destination will be reported. The argument is invalid if the named location doesn't exist. In this case, snapmirror-status-info output will not be present. The argument can also be invalid if it is a flexclone name. (Be aware that the snapmirror-list-destinations API can return flexclone names.) Then snapmirror-get-status API will return a snapmirror-status output value with a "state" of "unknown". If the argument is not specified, all source, destination SnapMirror pairs are returned.

Output Name	Range	Type	Description
is-available		boolean	True if SnapMirror is available.
snapmirror-status		snapmirror-status-info[] optional	An array of SnapMirror pair status. If there are no transfers or schedules, then snapmirror-status is not returned. Any and all pairs whose source or destination location matches the input location will be in the output.

Vfiler-enabled
Yes

snapmirror-get-total-records

[top]

Obtain the total number of SnapMirror relationships. This is a point in time estimate and may be different on subsequent calls.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of snapmirror objects.

snapmirror-get-volume-status

[top]

Returns SnapMirror status values for a given volume. Including whether: the volume is a source of a SnapMirror relationship; the volume is a destination of a SnapMirror relationship; a transfer is in progress; the relationship is broken off. On Data ONTAP 8.1 operating in Cluster-Mode, this API is provided for backward compatibility only. It will fail if the volume is the source or destination of a load-sharing SnapMirror relationship. It is recommended to use the snapmirror-get-iter API to get the same information. On Data ONTAP 8.1 operating in Cluster-Mode, this API must be issued on the cluster the volume belongs to. This API is not supported On Data ONTAP 8.2 or later operating in Cluster-Mode. You must use the snapmirror-get-iter and snapmirror-get-destination-iter APIs. If issued on Data ONTAP 8.2 or later operating in Cluster-Mode, this API will return EOPNOTSUPPORTED error.

Input Name	Range	Type	Description
volume		string	Name of the volume to be queried. On Data ONTAP operating in Cluster-Mode, specifies the location of the volume the following formats: [<cluster>:][//<vserver>/]<volume>

Output Name	Range	Type	Description
is-destination		boolean optional	true if it was determined that the volume is a destination of a SnapMirror relationship. false otherwise
is-source		boolean optional	true if it was determined that the volume is a source of a SnapMirror relationship. false otherwise
is-transfer-broken		boolean optional	true if it was determined that the volume is a destination of a SnapMirror relationship that was broken off. The volume allows reads and writes. false otherwise
is-transfer-in-progress		boolean optional	true if it was determined that the volume is a source or a destination of a SnapMirror relationship that has a transfer going on. false otherwise

Errno	Description
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTLOCAL	
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOLUME_RELSTATUS_UNKNOWN	
EOPNOTSUPPORTED	
EVOL_RESTRICTED	

Vfiler-enabled
Yes

License
replicate

snapmirror-history-get

[top]

The snapmirror-history-get API returns information for a SnapMirror operation of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. The operation-id must be specified when using the snapmirror-history-get API. This API can be used only with Data ONTAP 8.3 (or later). The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

Input Name	Range	Type	Description
desired-attributes		snapmirror-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
			Specifies the destination endpoint of the SnapMirror relationship in the following format: • <[vserver:]volume> • <vserver:>

destination-location		string optional	This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified: • The name of the destination Vserver.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships: • The name of destination volume.
operation-id		string	A unique identifier assigned to a SnapMirror operation.

Output Name	Range	Type	Description
attributes		snapmirror-history-info	The attributes of the snapmirror.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	

snapmirror-history-get-iter

[top]

The snapmirror-history-get-iter API returns information for one or several SnapMirror operations of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. This API can be used only with Data ONTAP 8.3 (or later). It returns all the SnapMirror operations, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified. The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

Input Name	Range	Type	Description
desired-attributes		snapmirror-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-history-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

snapmirror-initialize

[top]

Performs the initial update of a SnapMirror relationship. You must specify the destination endpoint when using snapmirror-initialize. This API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, If the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP operating in Cluster-Mode, this API is usually used after the snapmirror-create API, but it can be used alone, that is, without the snapmirror-create API, for data protection relationships only, to create and initially update a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, for extended_data_protection relationships, a 32-bit volume cannot be the source or destination of the relationship.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to initialize a relationship between two volumes or two Vservers. 1. When volume names are specified, this API initializes a volume level relationship. 2. When Vserver names without volume names are specified, this API will initialize a relationship between two Vservers. This API can only be used for relationships between two Vservers after a successful snapmirror-create API. During initialize a baseline transfer of the Vserver is performed.

With Data ONTAP 9.1, this API can be used to initialize a relationship between a Data ONTAP volume

and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specified for initialize.

With Data ONTAP 9.3, this API can be used to initialize a relationship between a Data ONTAP volume and a SolidFire endpoint.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-snapshot		string optional	Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.

destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
is-adaptive		boolean optional	Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later.
is-auto-expand-enabled		boolean optional	Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the initialize is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.

			This format may change in the future. On Data ONTAP operating in Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used.
source-snapshot		string optional	Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-mode, and the snapshot on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new snapshot on the source for the transfer. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Vserver level SnapMirror relationships do not support this parameter.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
transfer-priority		string optional	Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-error-message		string optional	Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode.
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.
result-status		string optional	The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.

Errno	Description

ESNAPMIRROROFF	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPILICENSE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_ISNOT_LS_VOLUME	
ESOURCE_ISNOT_RW_VOLUME	
ESOURCE_IS_EXISTING_DEST_VOLUME	
EDEST_IS_EXISTING_DEST_VOLUME	
EOP_FROM_NONMGR_VSERVER	
EDEST_IS_RW_VOLUME	
ESOURCE_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_VSERVERS_DIFFERENT	
ESOURCE_IS_STRIPED_VOLUME	
EDEST_VOLUME_NOT_EMPTY	
ESOURCE_DEST_SAME	
ENOSNAPSHOT_COPY	
EVOLUMES_WITH_DIFF_STRIPES	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EANOTHER_OP_ACTIVE	
EDEST_IS_STRIPED_VOLUME	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
EDEST_NOT_DP_VSERVER	
EUNSUPPORTED_CONFIG	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_INCORRECT_SUBTYPE_DST	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_INCORRECT_SUBTYPE_SRC	
EVSERVERDR_SRC_SRC_OF_DR_RELATION	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_RELATIONSHIP_MODIFY_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_POLICY_LOOKUP_FAILED	
EVSERVERDR_ROOT_VOL_HAS_DATA	

Vfiler-enabled
Yes

License
replicate

snapmirror-initialize-iter

[top]

The snapmirror-initialize-iter API initializes the destination volume of one or more SnapMirror relationships. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
is-auto-expand-enabled		boolean optional	Is Auto Expand Enabled
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
source-		string	Designates the source Snapshot copy to use for a qtree update on Data ONTAP operating in 7-mode, and the Snapshot copy on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new Snapshot copy on the source for the transfer.

snapshot		optional	This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Vserver level SnapMirror relationships do not support this parameter.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values: • "low" , • "normal"

Output Name	Range	Type	Description
failure-list		snapmirror-initialize-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-initialize-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-initialize-ls-set

[top]

The snapmirror-initialize-ls-set API performs the initial manual update of a set of load-sharing mirrors. This API is usually used after the snapmirror-create API is used to create a SnapMirror relationship for each of the destination volumes in the set of load-sharing mirrors. You must specify the source endpoint when using snapmirror-initialize-ls-set. Data and Snapshot copies are transferred from the source volume to all up-to-date destination volumes in the set of load-sharing mirrors. Use the snapmirror-initialize API to add and initialize a new destination volume to an existing set of load-sharing mirrors. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description

source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter. This parameter may be optional if executed outside cluster context.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EAPIPRIVILEGE	
ESOURCE_IS_EXISTING_DEST_VOLUME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EANOTHER_OP_ACTIVE	
EVSERVER_OP_NOT_ALLOWED	

snapmirror-list-connections

[top]

Returns connection information for a given connection or all connections. The API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

Input Name	Range	Type	Description
connection		string optional	Connection name of the connection information to obtain. If the connections is not specified, then the connection information for all the connections is returned.

Output Name	Range	Type	Description
snapmirror-connections		snapmirror-connection-info[]	An array of SnapMirror connection information.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-destinations

[top]

Returns a list of destination locations and information about SnapMirror relationships for given source locations, which can be a volume name or qtree path. This API must be issued on the source filer. This API is not supported for relationships with non-Data ONTAP endpoints.

Input Name	Range	Type	Description
source-location		string optional	Source location of the SnapMirror pair. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If the source-location is not specified, then all source, destination SnapMirror pairs are returned.

Output Name	Range	Type	Description
destinations		destination-info[]	A list of currently-known destinations on a source filer.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-schedule

[top]

Returns the schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

Input Name	Range	Type	Description
destination-location		string optional	The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned.

Output Name	Range	Type	Description
snapmirror-schedules		snapmirror-schedule-info[]	An array of SnapMirror schedule.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-sync-schedule

[top]

Returns a synchronous schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

Input Name	Range	Type	Description
destination-location		string optional	The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned.

Output Name	Range	Type	Description
snapmirror-sync-schedules		snapmirror-sync-schedule-info[]	An array of SnapMirror schedule.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-unprotected

[top]

The snapmirror-list-unprotected API returns a list of unprotected volumes for the specified source Vserver.

Input Name	Range	Type	Description
desired-attributes		snapmirror-list-unprotected optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
source-vserver		string	Specifies the source Vserver for which to list unprotected volumes.

Output Name	Range	Type	Description
attributes		snapmirror-list-	The attributes of the snapmirror.

		unprotected	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-modify

[top]

The snapmirror-modify API changes one or more parameters of a SnapMirror relationship. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later.

You must specify the destination endpoint when using the snapmirror-modify API. For load-sharing mirrors, a change to a parameter affects all of the SnapMirror relationships in the set of load-sharing mirrors. Destination volumes in a set of load-sharing mirrors do not have individual parameter settings. Changes made by the snapmirror-modify API do not take effect until the next manual or scheduled update of the SnapMirror relationship. Changes do not affect updates that have started and have not finished yet. On Data ONTAP 8.1 operating in Cluster-Mode this API must be issued on the destination Cluster. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver if operating in a Vserver context and on the destination cluster if operating in a cluster context. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume

			are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
policy		sm-policy optional	Specifies the name of the SnapMirror policy that applies to this relationship.
schedule		string optional	Specifies the name of the cron schedule, used to update the SnapMirror relationship.
			Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:

source-cluster		string optional	• Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored.
vserver		vserver-name optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option.

Output Name	Range	Type	Description
result-operation-id		uuid optional	Result Operation Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_SAME	
ESOURCE_IS_DIFFERENT	
EOP_FROM_NONMGR_VSERVER	
ESCHEDULE_DOESNT_EXIST	
EANOTHER_OP_ACTIVE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_DST_IS_NOT_LOCAL	

snapmirror-modify-iter

[top]

The snapmirror-modify-iter API allows to change one or more parameters of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion

			will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
policy		sm-policy optional	Specifies the name of the SnapMirror policy that applies to this relationship.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
schedule		string optional	Specifies the name of the cron schedule, used to update the SnapMirror relationship.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored.
vserver		vserver-name optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option.

Output Name	Range	Type	Description
		snapmirror-modify-	Information about snapmirror objects that were not operated on

failure-list		iter-info[] optional	due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-modify-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-off

[top]

Disables SnapMirror data transfers and turns off the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

Vfiler-enabled
Yes

License
replicate

snapmirror-on

[top]

Enables SnapMirror data transfers and turns on the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

Vfiler-enabled
Yes

License
replicate

snapmirror-promote

[top]

The snapmirror-promote API performs a failover to the destination volume of a load-sharing SnapMirror relationship. This API changes the destination volume from a load-sharing volume to a read-write volume and makes the destination volume assume the identity of the source volume. The API then destroys the original source volume. The destination volume must be a load-sharing volume. However, you can still perform 'snapmirror-promote' on a destination load-sharing volume that has been left in read-write state by a previously failed promote operation. You must specify the destination endpoint when using snapmirror-promote. Note: The source volume and destination volume must be on the same Vserver for the promote to work. Client accesses are redirected from the original source volume to the promoted destination volume. The view clients see on the promoted destination volume is the latest transferred Snapshot copy, which might lag behind the view clients had of the original source volume before the promote. The SnapMirror relationship is usually deleted as part of the promotion process. This is not true for a set of load-sharing mirrors that contain more than one destination volume. In this case, the promoted destination volume becomes the new source volume to the set of load-sharing mirrors. It is possible that the original source volume is the source of multiple SnapMirror relationships. For such a configuration, the promoted destination volume becomes the new source volume of the other SnapMirror relationships. The snapmirror-promote API fails if a SnapMirror transfer is in progress for any SnapMirror relationship involving the original source volume.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.

destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The

			name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_ISNOT_RW_VOLUME	
ESOURCE_DEST_SAME	
ETRANSFER_IN_PROGRESS	
EANOTHER_OP_ACTIVE	
EDEST_VOL_LOCKED	
ESRC_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	

snapmirror-promote-iter

[top]

The snapmirror-promote-iter API performs failover for one or more SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API

max-failure-count	**[1..2^32-1]**	integer optional	will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-promote-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-promote-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-protect

[top]

The snapmirror-protect API protects the specified Vserver or a list of volumes. The snapmirror-protect API must be used from the destination cluster. It is supported for FlexVol, FlexGroup and Vserver endpoints. It is not supported for FlexGroup constituents, Infinite Volumes, Infinite Volume constituents, AltaVault, or SolidFire endpoints. When source volumes are specified they must be read-write (RW) volumes. This API is available in Data ONTAP 9.3 and later.

On Data ONTAP 9.4 and later, this API supports protecting FlexGroup endpoints.On Data ONTAP 9.7 and later, this API supports protecting Vserver endpoints. A job will be spawned to operate on the

snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
auto-initialize		boolean optional	Specifies whether or not an initialize should be started after each SnapMirror relationship is created. The default value for this parameter is true.
destination-volume-prefix		string optional	Specifies the destination volume name prefix.
destination-volume-suffix		string optional	Specifies the destination volume name suffix.
destination-vserver		xc-vs-name optional	Specifies the destination Vserver to be used for protection.
destination-vserver-ipspace		string optional	Specifies the IPspace the Vserver will be assigned to. If left unspecified, the Vserver will be assigned to the default IPspace. This parameter is supported while protecting a Vserver and is available in Data ONTAP 9.7 or later.
identity-preserve		boolean optional	Specifies whether Vserver protect is IDD or IDP.
path-list		snapmirror-path[]	Specifies the list of source endpoints to be protected.
policy		sm-policy	Specifies the name of the SnapMirror policy for the SnapMirror relationships.
schedule		string optional	Specifies the name of the cron schedule for the SnapMirror relationships.
source-cluster		cluster-name optional	Specifies the source cluster name. This parameter is valid only when only a single Vserver is specified in the path-list parameter. This parameter is supported on Data ONTAP 9.7 or later.
support-tiering		boolean optional	This parameter specifies whether or not FabricPools are selected when provisioning a FlexVol volume or FlexGroup volume during the protection workflows. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later.
tiering-policy		tieringpolicy-enum optional	Destination Volume Tiering Policy. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

EAPIMISSINGARGUMENT	

snapmirror-quiesce

[top]

Disables future transfers to a SnapMirror destination. If there is no transfer in progress, the SnapMirror relationship becomes 'Quiesced'. If there is a transfer in progress, the SnapMirror relationship becomes 'Quiescing' until the transfer completes. If the current transfer aborts, it will be treated like a future transfer and will not restart. When a SnapMirror relationship is quiesced, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination endpoint when using snapmirror-quiesce. The destination end point could be a:

- Volume in case of a volume level SnapMirror relationship
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.
- An AltaVault endpoint on Data ONTAP 9.1 or later.
- A SolidFire endpoint on Data ONTAP 9.3 or later.

On Data ONTAP 8.1 operating in Cluster-Mode, if applied to a load-sharing (LS) SnapMirror relationship, all the relationships in the set will be quiesced. This API must be issued from the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
			Specifies the destination volume of the SnapMirror relationship. This

destination-volume		string optional	parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationship with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-		string	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume.

vserver		optional	• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_SAME	
ESOURCE_IS_DIFFERENT	
EOP_FROM_NONMGR_VSERVER	
EANOTHER_OP_ACTIVE	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	

Vfiler-enabled
Yes

License
replicate

snapmirror-quiesce-iter

[top]

Disables future transfers for one or more SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not

			provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-quiesce-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-quiesce-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-release

[top]

The snapmirror-release API removes a SnapMirror relationship on the source endpoint. It unlocks and cleanups the snapshots pertaining to the relationship. It does not destroy any volume. You must specify the destination endpoint when using snapmirror-release. The destination end-point could be a: (a) Volume for a volume level relationship (b) Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. Unless relationship-info-only is specified, this operation will fail if it is unable to reach the source volume and clean up snapshots. On Data ONTAP 8.3 or later, if operated on a Vserver SnapMirror relationship, relationships will be removed for all the volumes belonging to the Vserver. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be executed on the source Vserver or source cluster following the deletion of the relationship on the destination Vserver or destination cluster. It is possible to issue snapmirror-release on the source Vserver without deleting the relationship on the destination Vserver. However, the relationship will continue to exist because the destination is the authority. The relationship will reappear on the source on the next transfer. On Data ONTAP operating in

7-Mode, this API must be issued on the source storage system. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be issued on the source Vserver if operating in Vserver context and on the source cluster if operating in a cluster context. This API is not supported on Data ONTAP 8.1 operating in Cluster-Mode, or Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. This API is not supported for relationships with non-Data ONTAP endpoints.

Input Name	Range	Type	Description
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or destination Vserver and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. If using this parameter, the destination Vserver must also be specified. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the destination volume must also be specified. This parameter is mandatory if destination-location is not specified.
relationship-id		string optional	Specifies the relationship unique identifier of the SnapMirror relationship.
relationship-info-only		boolean optional	If relationship-info-only is set to true then only relationship information is removed. By default it is false.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.

			This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source Vserver, and source volume or the source Vserver.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the source Vserver must also be specified:
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the source volume must also be specified.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later.

Errno	Description
ESNAPMIRRORERR	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPILICENSE	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_SRC_IS_NOT_LOCAL	
EVSERVERDR_DST_VSERVER_LOCAL	
E_JOB_EXISTS	
EREL_SRC_INFO_NOT_FOUND	

Vfiler-enabled
Yes

snapmirror-release-iter

[top]

releases one or a group of SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1

max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-destination-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
relationship-info-only		boolean optional	If relationship-info-only is set to true then only relationship information is removed. By default it is false.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-release-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-release-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-restore

[top]

The snapmirror-restore API restores either the entire contents of a selected Snapshot copy or selected files or LUNs of a selected Snapshot copy from the source volume to the active file system (AFS) of the destination volume.

The snapmirror-restore API creates a temporary SnapMirror restore relationship. For this reason the destination volume cannot be the destination volume of another SnapMirror relationship. The temporary restore relationship is deleted after the operation completes successfully.

When restoring the entire contents of a Snapshot copy the following applies.

- If the destination volume is an empty data protection volume, the snapmirror-restore API performs a baseline restore. The baseline restore transfers the contents of the selected Snapshot copy from the source volume to the destination volume.
- If the destination volume is read-write an incremental restore is performed. A read-write destination volume must have at least one Snapshot copy which also appears on the source volume.

  A read-write destination volume is converted to a data-protection volume for the duration of the operation. When the destination volume is converted to a data-protection volume the latest Snapshot copy on destination volume is made the exported Snapshot copy. Note, that any data written to the destination volume since the last Snapshot copy is lost during this operation. To save the contents of the AFS on the destination volume, stop all client access and create a new Snapshot copy before starting this operation.

  During an incremental restore a common Snapshot copy is selected. The Snapshot copy chosen as the common Snapshot copy must be on the source and destination volumes. The contents of the common Snapshot copy on the destination volume are copied to the AFS of the destination volume. Then the contents of the Snapshot copy to be restored are transferred from the source volume to the destination volume.

The destination volume is converted to a read-write volume after the contents of the Snapshot copy have been transferred to the AFS of the destination volume.

If the destination volume is not an empty data protection volume or a read-write volume with at least one Snapshot copy which also appears on the source volume, the command fails.

Unless 'source-snapshot' is specified the most recent Snapshot copy on the source volume is restored.

When restoring a list of files or LUNs of a Snapshot copy the following applies.

The destination volume must be a read-write volume and the state of the volume is not changed by the restore operation.

Use the 'file-list' parameter to indicate the files or LUNs to be restored. Access to the files or LUNs being restored on the destination volume is restricted during the operation.

If the file or LUN to which data is to be restored does not exist in the destination volume's AFS it will be created. When creating a file or LUN in the destination AFS, all directories in the path of the file or LUN being restored must exist and for a LUN the parent directory must also be the root of the destination volume or the root of a Qtree in the destination volume.

The 'source-snapshot' parameter is required when restoring a list of files or LUNs. Files or LUNs to be restored must exist in the source Snapshot copy.

If the file or LUN being restored exists in the destination volume's AFS but is not the same file or LUN as in the source Snapshot copy, the contents of the file or LUN in the destination volume AFS will be overwritten but the file or LUN will retain its inode and for a LUN its identity as well. If the file or LUN being restored exists in the destination volume AFS it must be the same type as the file or LUN in the source Snapshot copy. Overwriting a file with a LUN or LUN with a file is not supported.

The 'create-check-snapshot' parameter is supported only when restoring files or LUNs and should be used only if the contents of the files or LUNs restored are to be verified using the 'snapmirror-check' API.

This API may be used to restart a failed snapmirror-restore operation.

This API may be used to terminate an aborted or failed snapmirror-restore operation by specifying the 'clean-up-failure' parameter set to 'true'. Terminating an aborted or failed snapmirror-restore operation deletes any residual temporary restore relationship.

Terminating an operation restoring the entire contents of a Snapshot copy converts the destination volume back to being read-write if the destination volume was read-write prior to the initial snapmirror-restore operation while removing any data transferred or copied during the snapmirror-restore

operation.

On Data ONTAP 9.1, only the SnapMirror source can be an AltaVault endpoint and the destination must be a Data ONTAP volume.

On Data ONTAP 9.4 and later, this API supports FlexGroup endpoints.

Terminating an operation restoring files or LUNs of a Snapshot copy deletes any files whose contents were partially restored but does not delete partially restored LUNs. Access restriction to the partially restored LUNs is not removed. Such a LUN may be deleted using the 'lun-destroy' API with the 'destroy-fenced-lun' parameter. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cg-item-mappings		cg-item-mapping[] optional	Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,...
clean-up-failure		boolean optional	Use this parameter with the value of 'true' to recover from an aborted or failed restore operation. If the destination volume was read-write prior to the failed or aborted restore operation, it is converted back to read-write if necessary while removing all data transferred or copied during the restore operation. Any residual temporary restore relationship is also removed from the destination Vserver. An attempt is made to remove any residual temporary restore relationship from the source Vserver. The default value for this parameter is 'false'.
create-check-snapshot		boolean optional	If this parameter is specified with the value of 'true' a Snapshot copy is created on the destination volume. The purpose of this Snapshot copy is for verifying the contents of files or LUNs restored using the 'snapmirror-check' API. The name of the Snapshot copy created is of the form 'snapmirrorCHK.<destination volume Vserver UUID>.<destination volume msid>.<time_stamp>'. Once the Snapshot copy is no longer needed for verifying data it is the responsibility of the user to delete the Snapshot copy. This parameter is only available on Data ONTAP 8.3 or later.
destination-cluster		cluster-name optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
			Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using

destination-location		snapmirror-path optional	a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		volume-name-nolink optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		xc-vs-name optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
disable-storage-		boolean	The default behavior of restore is to preserve storage efficiency when possible. Use this parameter with a value of 'true' to turn off storage efficiency for data transferred

efficiency		optional	over the wire and written to the destination volume. The default value for this parameter is false.
max-transfer-rate		integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
on-demand-attrs		smondemandattrs optional	This parameter specifies the attributes to be used when restoring on demand from an object store endpoint. Possible values are: 'off', 'read-only-without-data-pull' and 'read-write-with-metadata-pull'. The default value for this parameter is 'off', which means the on demand restore feature is turned off. 'read-only-without-data-pull' means that the volume being restored to will be read-only and data from the object store will not be pulled in the background. 'read-write-with-metadata-pull' means that the volume being restored to will be read-write enabled and all the volume metadata will be pulled from the object store in the background. This parameter is only available on Data ONTAP 9.7 or later.
restore-file-list		snapmirror-file-path[] optional	Specifies the files or LUNs of the Snapshot copy to be restored and the location to which the files or LUNs are restored in the active file system (AFS) on the destination volume. May contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to which data is restored in the destination volume's AFS is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the destination volume, e.g. @ /file1 or @ /dira/lun1. File restore is not supported if the source-path or destination-path contains commas in its directory or file name. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. Example: <snapmirror-file-path>/file1</snapmirror-file-path> will restore /file1 to the same path on the destination volume's AFS while <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will restore the data to /dst_file1 on the destination volume's AFS. This parameter is only available on Data ONTAP 8.3 or later.
source-cluster		cluster-name optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

source-location		snapmirror-path optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-snapshot		string optional	Specifies the Snapshot from the source to be restored.
source-volume		volume-name-nolink optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		xc-vs-name optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

			• This parameter is mandatory if source-location is not specified.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. Possible values are: 'normal', and 'low'. The default value for this parameter is 'normal'.
tries		string optional	Specifies the total number of attempts to transfer data. Valid input is a positive integer or 'unlimited'. The default is '8'.
use-network-compression		boolean optional	Specifies whether network compression is used for transfer of data. The default value is 'false'. This parameter is only available on Data ONTAP 8.3 or later. This parameter is not supported for relationships with non-Data ONTAP endpoints.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_CACHE_VOLUME	
EDEST_IS_VOLUME_CLONE	
ESOURCE_IS_DIFFERENT	
EDEST_IS_LS_VOLUME	
EDEST_VOL_LOCKED	

License
SnapMirror

snapmirror-resume

[top]

Enables future transfers for a SnapMirror relationship that has been quiesced. If there is a scheduled transfer, it will be triggered on the next schedule. If there is a restart checkpoint, it will be re-used if possible. On Data ONTAP Cluster-Mode, If applied on a load-sharing SnapMirror relationship, transfers will resume for all the relationships of the set. With Data ONTAP 8.3 or later, if executed on a Vserver SnapMirror relationship, transfers will resume for all the volumes belonging to the Vserver. When a quiesced SnapMirror relationship is resumed, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination end point when using snapmirror-resume. The destination end-point could be a: (a) Volume for a volume level relationship (b)

Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. (c) Non-Data ONTAP destination on Data ONTAP 9.1 or later. This API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.

			This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	

ESOURCE_DEST_SAME	
ESOURCE_IS_DIFFERENT	
EOP_FROM_NONMGR_VSERVER	
ERELATION_NOT_QUIESCED	
EANOTHER_OP_ACTIVE	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	

Vfiler-enabled
Yes

License
replicate

snapmirror-resume-iter

[top]

Enables future transfers for one or more SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-resume-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-resume-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-resync

[top]

Re-establishes a mirroring relationship between

- A source volume and a destination volume.
- A source Vserver and a destination Vserver in case of a Vserver Snapmiror relationship on Data ONTAP 8.3 or later.

On Data ONTAP operating in Cluster-Mode this API is usually used on existing SnapMirror relationships, but it can be used, for data protection relationships only, to create a SnapMirror relationship in addition to performing the resync operation.

Typically, the snapmirror-resync API is executed in the following cases:

- The destination mirror is broken (that is, the destination volume is a read-write volume and no longer a data protection mirror). After the snapmirror-resync API completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates.
- A snapmirror-update API failed because the required common Snapshot copy was deleted on the source volume.

Typically, for a Vserver SnapMirror relationship, a resync is executed when the Vserver SnapMirror relationship is broken-off and the destination Vserver is of subtype default. It establishes the Vserver level relationship by

- Creating new volumes at the destination. (volumes are present at the source Vserver but not present at the destination Vserver)
- Creating volume level SnapMirror relationships.
- Initializing the newly created volume relationships.
- Performing a resync for volumes which have common snapshots.

The destination Vserver after resync, is of sub-type dp-destination. After the operation completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates. **Attention:** The snapmirror-resync API can cause data loss on the destination volume because the API can remove the exported Snapshot copy on the destination volume.

The default behavior of the snapmirror-resync API is defined as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, removes Snapshot copies on the destination volume that are newer than the common Snapshot copy and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- For data protection and extended data protection relationships with policy type other than vault, takes a Snapshot copy of the source volume to capture the current image and transfers Snapshot copies that are newer than the common Snapshot copy from the source volume to the destination volume. For extended data protection relationships, transfers Snapshot copies newer than the common Snapshot copy according to the relationship policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy API. For relationships associated with the policy type of async-mirror or mirror-vault, the snapmirror-resync API first takes a Snapshot copy of the source volume and includes it in the Snapshot copies selected for transfer.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the snapmirror-resync API supports an optional parameter 'preserve'. The parameter 'preserve' is only supported for extended data protection relationships with policy type mirror-vault or vault. When used, the parameter 'preserve' changes the behavior of the snapmirror-resync API. The changed behavior can be described as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, preserves all Snapshot copies on the destination volume that are newer than the common Snapshot copy, and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- Performs a local rollback transfer to make a copy of the common Snapshot copy on the destination volume and establish it as the latest Snapshot copy on the destination volume. The command then transfers all Snapshot copies that are newer than the common Snapshot copy, from the source volume to the destination volume. The command only transfers Snapshot copies that match the relationship's policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy APIs.

The snapmirror-resync API fails if the destination volume does not have a Snapshot copy in common with the source volume.

On Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode, a job is spawned to operate for the SnapMirror relationship and the job id is returned. The progress of the operation can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

On Data ONTAP operating in 7-Mode, the update is asynchronously handled, and there is no guarantee that it succeeds. This requires that a schedule in /etc/snapmirror.conf is set for the destination.

The API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

With Data ONTAP 9.1, this API can be used to resync a Data ONTAP source volume and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for resync.

With Data ONTAP 9.3, this API can be used to resync a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-snapshot		string optional	Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
is-adaptive		boolean	Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This

		optional	parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later.
is-auto-expand-enabled		boolean optional	Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the resync is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later.
max-transfer-rate		integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
preserve		boolean optional	This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all snapshots on the destination that are newer than the latest common snapshot will be deleted. If preserve is specified, newer snapshots are retained. If preserve is specified for any other relationships the API will fail. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault. This parameter is not supported for relationships with non-Data ONTAP endpoints.
quick-resync		boolean optional	If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false. This parameter is not supported for data protection and load-sharing relationships. This parameter only applies on Data ONTAP 8.3 or later. This parameter is not supported for relationships with non-Data ONTAP endpoints.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
			Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating

source-location		string optional	in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used.
source-snapshot		string optional	Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-Mode, and the snapshot on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
transfer-priority		string optional	Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-error-message		string optional	Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. This parameter should be used to monitor the transfer progress. But, on Data ONTAP 8.2 operating in Cluster-Mode, it should be ignored if the relationship-control-plane is not 'v1'. The snapmirror-get API should be used to monitor the progress of the transfer.
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_CACHE_VOLUME	
EDEST_IS_VOLUME_CLONE	
ESOURCE_IS_DIFFERENT	
EDEST_IS_LS_VOLUME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EANOTHER_OP_ACTIVE	
ESOURCE_IS_STRIPED_VOLUME	
EDEST_IS_STRIPED_VOLUME	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
EVSERVER_NOT_PEERED	
EUNSUPPORTED_CONFIG	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_INCORRECT_SUBTYPE_SRC	
EVSERVERDR_ANOTHER_SRC_IN_RELATION	
EVSERVERDR_SRC_SRC_OF_DR_RELATION	
EVSERVERDR_REVERSE_TRANSFER_OPERATION	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_ADDITIONAL_VOLUMES_ON_DST	

EVSERVERDR_VOLUME_NAME_MISMATCH	
EVSERVERDR_VSERVER_MODIFY_FAILED	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_POLICY_LOOKUP_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	
EVSERVERDR_RELATIONSHIP_MODIFY_FAILED	
EVSERVERDR_LS_SRC_IN_DST	
EVSERVERDR_VSM_LOOKUP_FAILED	
EVSERVERDR_BREAK_INCOMPLETE	
EVSERVERDR_ROOT_VOL_HAS_DATA	

Vfiler-enabled
Yes

License
replicate

snapmirror-resync-iter

[top]

The snapmirror-resync-iter API establishes or reestablishes one or more SnapMirror relationships between a source and a destination endpoint. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
is-auto-expand-enabled		boolean optional	Is Auto Expand Enabled
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-	**[0..2^32-**	integer	Specifies the upper bound, in kilobytes per second, at which data is transferred between clusters. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the

transfer-rate	**1]**	optional	max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
preserve		boolean optional	This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all Snapshot copies on the destination that are newer than the latest common Snapshot copy will be deleted. If preserve is specified, newer Snapshot copies are retained. If preserve is specified for any other relationships the API will fail. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
quick-resync		boolean optional	If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false. This parameter is not supported for data protection and load-sharing relationships. This parameter only applies on Data ONTAP 8.3 or later.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
source-snapshot		string optional	Designates the source Snapshot copies to use for a qtree update on Data ONTAP operating in 7-Mode, and the Snapshot copy on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.
			Specify the tag from the last call. It is usually not specified for

tag		string optional	the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values: • "low" , • "normal"

Output Name	Range	Type	Description
failure-list		snapmirror-resync-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-resync-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-set-connection

[top]

Sets up a connection. snapmirror-set-connection will add a new connection or modify an existing one. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

Input Name	Range	Type	Description
address-pair1		address-pair	The connection's first source and destination address pair. In multi mode, the first address pair provides a connection path; while in failover mode, the first address pair provides the prefer connection path.
address-pair2		address-pair optional	The connection's second source and destination address pair. In multi mode the second address pair provides another connection path, while in failover mode, the second address pair provides a connection path in case the first path fails.
connection		string	Name of the connection to add or modify. The name is in ASCII and must begin with an alpha character.
mode		string optional	Possible mode values are "multi" or "failover". If not specified, the default is "multi".

Vfiler-enabled
Yes

License
replicate

snapmirror-set-schedule

[top]

Sets the schedule for a given destination. The API must be executed on the destination filer. Currently, the schedule is in /etc/snapmirror.conf.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establishing connection between source and destination. Possible values are "inet", "inet6" and "default". If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
days-of-month		string	Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match day 1; • 1,3 := match day 1 and 3; • 2-5 := match day 2,3,4,5; • 1-30/7 := match day 1,8,15,22,29; • * := matches all possible legal values;
days-of-week		string	Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match day 1 (Mon); • 1,3 := match day 1 and 3 (Mon and Wed); • 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri); • * := matches all possible legal values;
destination-location		string	The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
			Hours in the day for which the schedule is set. The form is crontab-like,

hours		string	with possible values of: • - := match nothing; • 1 := match hour 1; • 1,3 := match hour 1 and 3; • 2-5 := match hour 2,3,4,5; • 1-24/3 := match hour 1,4,7,10,13,16,19,22; • * := matches all possible legal values;
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message.
max-transfer-rate		integer optional	Maximum transfer rate in kilobytes per second. If specified as 0, transfer happens as fast as the storage system can. If not specified, the previous value is retained. If nothing was mentioned previously, it is set to the default value.
minutes		string	Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match minute 1; • 1,3 := match minute 1 and 3; • 2-5 := match minute 2,3,4,5; • 1-12/3 := match minute 1,4,7,10; • 0-55/5 := match minute 0,5,10,15,20,25,30,35,40,45,50,55; • * := matches all possible legal values;
restart		string optional	restart mode when transfer is interrupted. Possible values are "always", "never" and "default". If value is set to "always", then an interrupted transfer will always restart, if it has a restart check point and the conditions are the same as before the transfer was interrupted. If value is set to "never", then an interrupted transfer will never restart, even if it has a restart checkpoint. If not specified, the previous value is retained. If nothing was mentioned previously, then it is set to default, where SnapMirror behaves like the "always" case, unless it has passed the next scheduled transfer time, in which case it will begin that scheduled transfer instead of restarting.
source-location		string	The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
tcp-window-size		integer optional	TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained.

Vfiler-enabled

Yes

License

replicate

snapmirror-set-sync-schedule

[top]

Establishes a synchronous or semi-synchronous schedule. Currently, the schedules are in: /etc/snapmirror.conf. Semi-synchronous mode is determined by specifying semi-sync.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establishing connection between source and destination. If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection-mode do not match, the operation will fail with proper error message.
destination-location		string	The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message.
ops-throttle		string optional	The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode. If not specified, the previous value is retained. This is a deprecated parameter. Use the sync-mode parameter instead to specify the sync mode.
source-location		string	The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
sync-mode		string optional	This specifies whether the mirror should be configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". If the user wants to configure the mirror to run in fully synchronous mode, the user must specify "full_sync" as the value for this parameter. If the user wants to configure the mirror to run in semi-synchronous mode, the user must specify "semi_sync" as the value of this parameter. If not specified, the mirror will be configured to run in full synchronous mode. This parameter overrides the deprecated ops-throttle parameter.
tcp-window-size		integer optional	TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained.
visibility-		integer	Controls how often the source snapspot will be visible on the destination mirror. This input is used to control the value of visibility_interval in the

frequency			snapmirror.conf file. The units are in seconds. A typical value to use for this input is 180.

License
replicate

snapmirror-snapshot-owner-create

[top]

Add an owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
snapshot		snapshot-id	Snapshot Copy Name
snapshot-owner-name		snapshot-owner-name optional	Specifies the name of the owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration. An owner can contain letters, numbers, and the underscore character (_), and can be at most 32 characters long. If no owner is specified, the system will assign an internal default owner to preserve the Snapshot copy.
volume		volume-name	Volume Name
vserver		vserver-name	Vserver Name

Errno	Description
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapmirror-snapshot-owner-destroy

[top]

Delete an owner used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
snapshot		snapshot-id	Snapshot Copy Name
snapshot-owner-name		snapshot-owner-name optional	The specified owner is removed from the Snapshot copy. If no owner name is provided, the system will look for and remove the internal default name for the owner. A specified owner of '*' removes all owners from the Snapshot copy.
volume		volume-name	Volume Name
vserver		vserver-name	Vserver Name

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapmirror-snapshot-owner-get

[top]

List all owners used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
snapshot		snapshot-id	Name of the snapshot.
volume		volume-name	Name of the volume to which this snapshot belongs.
vserver		vserver-name	Name of the vserver to which this volume belongs.

Output Name	Range	Type	Description
snapshot-owner-names		snapshot-owner-name[]	Returns the owner(s) used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-snapshot-owner-get-snapshots

[top]

List all Snapshot copies that are preserved for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
volume		volume-name	Name of the volume to which this snapshot belongs.
vserver		vserver-name	Name of the vserver to which this volume belongs.

Output Name	Range	Type	Description
snapshots		snapshot-id[]	Returns the Snapshot copies that are preserved using owners for a SnapMirror mirror-to-vault cascade configuration.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-throttle

[top]

Changes the max transfer rate of an active transfer. The API can be issued to either the source or the destination filer.

Input Name	Range	Type	Description
destination-location		string	The destination location of the active transfer. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
max-transfer-rate		integer	Maximum transfer rate in kilobytes per second. A value '0' disables the throttle, ie. the filer will transfer as fast as it can. Range: 0..2^32-1

Errno	Description
ESNAPMIRRORERR	

Vfiler-enabled
Yes

License
replicate

snapmirror-update

[top]

Updates the destination endpoint of the SnapMirror relationship. The update is asynchronously handled, and there is no guarantee that it will succeed.

On Data ONTAP operating in 7-Mode the snapmirror-get-status API can be used to check the status of the update. The API must be issued on the destination storage system.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode and for relationships using a control plane compatible with Data 8.1 operating Cluster-Mode (relationship-control-plane set 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to update a relationship between two volumes or two Vservers. 1. When volume names are specified, this API updates a volume level relationship. 2. When Vserver names without volume names are specified, this API will update a relationship between two Vservers.

With Data ONTAP 9.1, this API can be used to update a relationship between a Data ONTAP source volume and an AltaVault destination endpoint. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for update.

With Data ONTAP 9.3, this API can be used to update a relationship between a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

You must specify the destination endpoint when using snapmirror-update.

The API makes the destination endpoint or non-Data ONTAP destination an up-to-date mirror of the

source endpoint.

This API must be used from the destination storage system on Data ONTAP 7-Mode, or from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP Cluster-Mode if the destination volume or non-Data ONTAP endpoint is empty, the snapmirror-update API will fail. The snapmirror-initialize API must be called to perform the baseline transfer before the snapmirror-update can be called.

For data protection relationships, the snapmirror-update API makes the destination volume an up-to-date mirror of the source volume with the following steps:

- If the source volume is read-write, takes a Snapshot copy on the source volume to capture the current image of the source volume.
- Finds the most recent Snapshot copy on the destination volume and validates that the corresponding Snapshot copy is on the source.
- Incrementally transfers Snapshot copies that are newer than the corresponding Snapshot copy to the destination volume.

For extended data protection relationships with policy type vault, the snapmirror-update API does not take a Snapshot copy on the source volume. For extended data protection relationships with policy type as mirror-vault, the snapmirror-update API takes a Snapshot copy on the source volume. But both of them transfer only selected Snapshot copies that are newer than the common Snapshot copy to the destination volume. Snapshot copies are selected by matching their 'snapmirror-label' with the 'snapmirror-label' of one of the rules from the corresponding SnapMirror policy associated with the SnapMirror relationship. All matching Snapshot copies are incrementally transferred to the destination volume.

For extended data protection relationships with policy type as vault or mirror-vault, the snapmirror-update API also manages expiration of Snapshot copies on the destination volume. It does so by deleting Snapshot copies that have exceeded the value of 'keep' for the matching rule from the corresponding SnapMirror policy associated with the SnapMirror relationship. Snapshot copies that match the same 'snapmirror-label' will be deleted in oldest-first order.

For data protection relationships, the parameter 'source-snapshot' is optional and allows for the transfer of Snapshot copies newer than the common Snapshot copy up to the specified 'source-snapshot'.

For extended data protection relationships, the parameter 'source-snapshot' is optional and allows transfer of a Snapshot copy that is older than the common Snapshot copy and/or may not be selected for transfer based on policy-based selection of an update transfer.

After the snapmirror-update API successfully completes, the last Snapshot copy transferred is made the new exported Snapshot copy on the destination volume. If an update to an extended data protection relationship specifies a Snapshot copy using the 'source-snapshot' parameter that is older than the common snapshot, after the snapmirror-update API successfully completes, the exported Snapshot copy on the destination volume will remain unchanged.

If the snapmirror-update does not finish successfully, due to a network failure or because a snapmirror-abort API was issued for example, a restart checkpoint might be recorded on the destination volume. If a restart checkpoint is recorded, the next update restarts and continues the transfer from the restart checkpoint. For extended data protection relationships, the next update will restart and continue the old transfer regardless of whether it is a matching Snapshot copy or not.

On Data ONTAP 8.1 operating in Cluster-Mode, you can use the snapmirror-update API to update a specific load-sharing mirror that lags behind up-to-date destination volumes in the set of load-sharing mirrors. An update to the lagging load-sharing mirror should bring it up to date with the other up-to-date destination volumes in the set of load-sharing mirrors. Note: You might have to run the snapmirror-update API more than once if the command does not finish before the next scheduled

update of the set of load-sharing mirrors.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. On Data ONTAP 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-snapshot		string optional	Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This paramter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-		string	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume.

vserver		optional	• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
enable-storage-efficiency		boolean optional	Enables storage efficiency on an extended data protection relationship with policy type vault which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume. The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this extended data protection relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient. The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency. This paramter is not supported for relationships with non-Data ONTAP endpoints.
max-transfer-rate		integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source. This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source

			location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used.
source-snapshot		string optional	Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships. For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead. For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules. Vserver level SnapMirror relationships do not support this parameter.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
transfer-priority		string optional	Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-error-message		string optional	Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode.
			Operation unique identifier of the SnapMirror operation. This field is

result-operation-id		string optional	only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.
result-status		string optional	The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_LS_VOLUME	
EOP_FROM_NONMGR_VSERVER	
ESOURCE_DEST_SAME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
ETRANSFER_IN_PROGRESS	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_INCORRECT_SUBTYPE_DST	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_POLICY_LOOKUP_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	
EVSERVERDR_BREAK_INCOMPLETE	

Vfiler-enabled
Yes

License
replicate

snapmirror-update-iter

[top]

The snapmirror-update-iter API updates the destination volumes of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The

progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
enable-storage-efficiency		boolean optional	Enables storage efficiency on a vault relationship which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume. The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this vault relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient. The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
			Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships.

source-snapshot		string optional	For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead. For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules. Vserver level SnapMirror relationships do not support this parameter.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values: • "low" , • "normal"

Output Name	Range	Type	Description
failure-list		snapmirror-update-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-update-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-update-ls-set

[top]

The snapmirror-update-ls-set API updates destination volumes of the set of load-sharing mirrors. The API makes destination volumes, in the group of load-sharing mirrors, up-to-date mirrors of the source volume. You must specify the source endpoint when using snapmirror-update-ls-set. Separate SnapMirror transfers are performed from the source volume to each of the up-to-date destination volumes in the set of load-sharing mirrors. Load-sharing mirrors that lag behind the up-to-date destination volumes might not be updated by the snapmirror-update-ls-set API. Use the snapmirror-update API to update a lagging load-sharing mirror. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_ISNOT_LOCAL_VOLUME	
ESOURCE_IS_EXISTING_DEST_VOLUME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EVSERVER_OP_NOT_ALLOWED	

Element definition: **address-pair**

[top]

Source and destination address pair.

Name	Range	Type	Description
destination-addr		string	Destination address in the form of filer name or IP address.

source-addr		string	Source address in the form of filer name or IP address.

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cg-item-mapping**

[top]

Snapmirror Consistency Group Item Mapping

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **destination-info**

[top]

Source location, destination location, and source snapshot of a snapmirrored pair.

Name	Range	Type	Description
destination-location		string	Destination location of the snapmirrored pair. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree> or the clone form: <filer>:<volume>-> [clone:<clone_name>].
source-location		string	The source location of the snapmirrored pair. The source location is of the volume form: <filer>:<volume>, or it is of the qtree form: <filer>:/vol/<volume>/<qtree>. In versions of ONTAP earlier than 7.0, there was a bug which omitted the filer name, so the volume form is: <volume>, and the qtree form is: /vol/<volume>/<qtree>.
source-snapshot		string	The source snapshot.

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-transfer-priority-enum** [top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

Element definition: **smendpointtype** [top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

Element definition: **smondemandattrs** [top]

off|read-only-without-data-pull|read-write-with-metadata-pull|read-write-with-user-data-pull Possible values:

- "off" ,
- "read_only_without_data_pull" ,
- "read_write_with_metadata_pull" ,
- "read_write_with_user_data_pull"

[none]

Element definition: **snapmirror-abort-iter-info** [top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-		uuid	

operation-id		optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-break-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-capabilities-info**

[top]

Capabilities information for a single endpoint type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
endpoint-type		smendpointtype optional	Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Attributes: key, non-creatable, non-modifiable Possible values: • "flexvol" , • "object_store"
is-dpo-destination-enabled		boolean optional	Whether or not this cluster has a DP_Optimized (Data Protection Optimized) license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable
is-dpo-source-enabled		boolean optional	Whether or not this cluster supports bypassing source SnapMirror license checking if the destination cluster for a SnapMirror relationship has a DP_Optimized (Data Protection Optimized) license installed. Some hardware platforms support this bypassing and some do not. If one or more nodes support bypassing, the value is true, otherwise it is false. Attributes: non-

			creatable, non-modifiable
is-snaplock-licensed		boolean optional	Whether or not this cluster has a SnapLock license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable
snapmirror-policy-types		snapmirror-policy-cap-info[] optional	Capabilities information for policy types.

Element definition: **snapmirror-check-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapmirror-connection-info**

[top]

Information about one connection.

Name	Range	Type	Description
address-pair1		address-pair	The first source and destination address pair.
address-pair2		address-pair optional	The second source and destination address pair.
mode		string	Connection mode. Possible values are: "multi" and "failover".
name		string	Name of the connection. The name is in ASCII and must begin with an alpha character.
snapmirror-error		snapmirror-error optional	Present if there is an error for a snapmirror connection.

Element definition: **snapmirror-cr-status-aggregate-eligibility-info**

[top]

SnapMirror Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		aggr-name optional	The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable
comment		string optional	If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable
hosted-configuration-replication-volumes		volume-name[] optional	The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable
is-eligible-to-host-additional-volumes		boolean optional	Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-cr-status-comm-info**

[top]

Results of the SnapMirror config replication communication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
heartbeat-recovery-steps		string optional	Recovery steps in case the check finds a problem with the peer cluster heartbeat. Attributes: non-creatable, non-modifiable
last-heartbeat-received		datetime optional	The timestamp of the last SnapMirror configuration replication hearbeat received from the peer cluster. Attributes: non-creatable, non-modifiable
last-heartbeat-sent		datetime optional	The timestamp of the last SnapMirror configuration replication heartbeat sent to the peer cluster. Attributes: non-creatable, non-modifiable
peer-cluster		string optional	The peer cluster destination for SnapMirror configuration replication. Attributes: non-creatable, non-modifiable
peer-cluster-uuid		string optional	The UUID of the peer cluster destination for SnapMirror configuration replication. Attributes: key, non-creatable, non-modifiable
			Verifies that the SnapMirror configuration replication heartbeat to the

remote-heartbeat		string optional	peer cluster is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

Element definition: **snapmirror-cr-status-info**

[top]

Results of the SnapMirror config replication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Verifies that SnapMirror configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable
is-running		boolean optional	Verifies that SnapMirror configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable
recovery-steps		string optional	Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable
storage-in-use		string optional	The location of SnapMirror configuration replication storage. Examples: • Node Local on node-123 • Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A • Unavailable Attributes: non-creatable, non-modifiable
storage-non-healthy-reason		string optional	The underlying root cause for non-healthy SnapMirror configuration replication storage. Attributes: non-creatable, non-modifiable
storage-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable
storage-status		string optional	Verifies that SnapMirror configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
vserver-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable

vserver-streams		string optional	Verifies that SnapMirror configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

Element definition: **snapmirror-cr-storage-info**

[top]

Snapmirror Config-Replication Storage info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable
use-mirrored-aggregate		boolean optional	Specifies whether mirrored aggregates are currently in use by Async Vserver DR configuration replication. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cg-item-mappings		string[] optional	Specifies a list of the Consistency Group (CG) item mappings. This parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable
			Specifies the destination endpoint of the SnapMirror relationship in

destination-location		string optional	the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable
destination-volume		string optional	Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
policy-type		string optional	The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"
progress-last-updated	**[0..2^31-1]**	integer optional	Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup" , • "vserverflexgroup"
relationship-id		string optional	Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable
			Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the

relationship-status		string optional	node hosting the source volume joined the quorum. Possible values are: • 'idle', • 'transferring' This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
source-volume-node		string optional	Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
transfer-progress	**[0..2^63-1]**	integer optional	Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-destroy-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-file-path**

[top]

Snapmirror File Path

[none]

Element definition: **snapmirror-get-dp-personality**

[top]

SnapMirror Data Protection Personality When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-dp-personality		string optional	DP Personality. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-history-info**

[top]

SnapMirror history When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	A message describing the cause of the failure or additional information about a successful operation such as if a checkpoint was cleared as part of an abort operation. Attributes: non-creatable, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following format: • <[vserver:]volume> • <vserver:> This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships. Attributes: key, non-creatable, non-modifiable
destination-		string	Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified:

volume		optional	• The name of the destination Vserver. Attributes: key, non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships: • The name of destination volume. Attributes: key, non-creatable, non-modifiable
end-time		datetime optional	The timestamp of the end time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
operation-id		string optional	A unique identifier assigned to a SnapMirror operation. Attributes: key, non-creatable, non-modifiable
operation-type		string optional	The type of the operation happened on the relationship. Attributes: non-creatable, non-modifiable Possible values: • "create" - Snapmirror Create, • "modify" - Snapmirror Modify, • "quiesce" - Snapmirror Quiesce, • "resume" - Snapmirror Resume, • "delete" - Snapmirror Delete, • "initialize" - Snapmirror Initialize, • "manual_update" - Snapmirror Manual Update, • "scheduled_update" - Snapmirror Scheduled Update, • "break" - Snapmirror Break, • "resync" - Snapmirror Resync, • "abort" - Snapmirror Abort, • "restore" - Snapmirror Restore, • "automatic_resync" - Snapmirror Automatic Resync, • "failover" - Snapmirror Failover, • "rsetup" - Snapmirror Resync Setup, • "baseline_gather" - Snapmirror Baseline Gather
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup" , • "vserverflexgroup"
relationship-id		string optional	A unique identifier assigned to the SnapMirror relationship when it is created. This is not applicable for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable
result		string optional	Result of the SnapMirror operation. Attributes: non-creatable, non-modifiable Possible values: • "success" - Succesful Operation, • "failure" - Failed Operation
			Specifies the source endpoint of the SnapMirror relationship in the following format: • <[vserver:]volume> • <vserver:> This format depends on Vserver peering setup

source-location		string optional	between the source and destination Vservers. The source endpoint can be specified using the location format, or by specifying the parameters for the name of the source Vserver and the name of the source volume or the source Vserver for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. If using this parameter, the following parameter should also be specified: • The name of the source Vserver. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships: • The name of source volume. Attributes: non-creatable, non-modifiable
start-time		datetime optional	The timestamp of the start time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
transfer-size	**[0..2^63-1]**	integer optional	The total number of bytes transferred as part of the transfer operation. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
break-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
break-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
catalog-status		string optional	Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are: • 'idle' - No catalog metadata transfer is in progress, • 'transferring' - A catalog metadata transfer is in progress.

			This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-total-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-transfer-snapshot		string optional	Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
cg-item-mappings		string[] optional	Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable
current-max-transfer-rate	**[0..2^32-1]**	integer optional	The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-operation-id		string optional	Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-error		string optional	A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-priority		string optional	Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values: • "low" , • "normal"
current-transfer-type		string optional	The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" ,

			"cg_update" , • "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
destination-		string	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1

volume		optional	operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-volume-node		string optional	Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-vserver-uuid		string optional	A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
exported-snapshot		string optional	The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
exported-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
file-restore-file-count	**[0..2^64-1]**	integer optional	The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
file-restore-file-list		string[] optional	List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
identity-preserve		boolean optional	This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. Attributes: optional-for-create, non-modifiable
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data

			ONTAP 9.3 or later. Attributes: optional-for-create, modifiable
is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
is-healthy		boolean optional	False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable
lag-time	**[0..2^32-1]**	integer optional	The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-duration	**[0..2^32-1]**	integer optional	The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable
last-transfer-end-timestamp	**[0..2^31-1]**	integer optional	The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-error		string optional	A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-error-codes	**[0..2^32-1]**	integer[] optional	List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-from		string optional	The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
last-transfer-size	**[0..2^63-1]**	integer optional	The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
			The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:

last-transfer-type		string optional	• "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" , • "cg_update" , • "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable
mirror-state		string optional	Specifies the mirror state of the SnapMirror relationship. Possible values are: • 'uninitialized' - Destination volume has not been initialized, • 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates, • 'broken-off' - Destination volume is RW and snapshots are present. Attributes: non-creatable, non-modifiable
network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
newest-snapshot		string optional	The name of the newest Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
newest-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
opmask	**[0..2^64-1]**	integer optional	A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable

policy		string optional	Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable
policy-type		string optional	The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "active_sync_mirror"
progress-last-updated	**[0..2^31-1]**	integer optional	A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-control-plane		string optional	The type of the control plane used for the relationship. Possible values are: • 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations. • 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "none" ,

			• "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup"
relationship-id		string optional	A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
relationship-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-status		string optional	Specifies the status of the SnapMirror relationship. Possible values are: • 'idle' - Transfers are enabled, and no transfer is in progress, • 'transferring' - SnapMirror transfers are enabled and a transfer is in progress, • 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1', • 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled, • 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress, • 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system, • 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers, • 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers, • 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway, • 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values: • "data_protection" , • "load_sharing" , • "vault" , • "restore" , • "transition_data_protection" , • "extended_data_protection"
resync-	**[0..2^64-**	integer	The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving

failed-count	**1]**	optional	the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
resync-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
schedule		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable
snapshot-checkpoint	**[0..2^63-1]**	integer optional	The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
snapshot-progress	**[0..2^63-1]**	integer optional	The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the

			source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver-uuid		string optional	A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
total-transfer-bytes	**[0..2^64-1]**	integer optional	Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable
total-transfer-time-secs	**[0..2^32-1]**	integer optional	Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
transfer-snapshot		string optional	The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in progress. Attributes: non-creatable, non-modifiable
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is

			ignored. Attributes: optional-for-create, modifiable
unhealthy-reason		string optional	The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
vserver		string optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable

Element definition: **snapmirror-initialize-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapmirror-list-unprotected**

[top]

SnapMirror List Unprotected When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
source-vserver		string optional	Specifies the source Vserver for which to list unprotected volumes. Attributes: key, non-creatable, non-modifiable

Element definition: **snapmirror-modify-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-path**

[top]

Snapmirror path name

[none]

Element definition: **snapmirror-promote-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

[top]

Element definition: **snapmirror-quiesce-iter-info**

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-release-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-destination-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-resume-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-resync-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapmirror-schedule-info**

[top]

Contains the SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

Name	Range	Type	Description
days-of-month		string optional	Days in the month for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match day 1; • 1,3 := match day 1 and 3; • 2-5 := match day 2,3,4,5; • 1-30/7 := match day 1,8,15,22,29; • * := matches all possible legal values; If there is an error, days-of-month will not be present and snapmirror-error will be present.
days-of-week		string optional	Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of: • - := match nothing. • 1 := match day 1 (Mon); • 1,3 := match day 1 and 3 (Mon and Wed); • 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri); • * := matches all possible legal values; If there is an error, days-of-week will not be present and snapmirror-error will be present.
destination-location		string	The destination location of the schedule. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
			Hours in the day for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match hour 1;

hours		string optional	1,3 := match hour 1 and 3; • 2-5 := match hour 2,3,4,5; • 1-24/3 := match hour 1,4,7,10,13,16,19,22; • * := matches all possible legal values; If there is an error, hours will not be present and snapmirror-error will be present.
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. The default is false.
max-transfer-rate		integer optional	Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer.
minutes		string optional	Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match minute 1; • 1,3 := match minute 1 and 3; • 2-5 := match minute 2,3,4,5; • 1-12/3 := match minute 1,4,7,10; • 0-55/5 := match minute 0,5,10,15,20,25,30,35,40, 45,50,55; • * := matches all possible legal values; If there is an error, minutes will not be present and snapmirror-error will be present.
snapmirror-error		snapmirror-error optional	Present if there is an error for a snapmirror schedule.
source-location		string optional	The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present.
tcp-window-size		integer optional	TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value.

Element definition: **snapmirror-status-info**

[top]

The SnapMirror pair status.

Name	Range	Type	Description
base-snapshot		string optional	Base snapshot name. Only present if available.
contents		string	State of the active file system of snapmirror destinations. Possible values are: "replica", "transitioning", and "original".
current-transfer-error		string optional	A human readable transfer error of the current snapmirror transfer. Present when there is a current error.
current-transfer-type		string optional	Type of the current SnapMirror transfer. Possible values are: initialize, store, schedule, retry, retrieve, resync, and migrate. Only present when there is a transfer.
destination-location		string	The destination location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>.

inodes-replicated	**[0..2^64-1]**	integer optional	Shows the number of inodes replicated. Present during directory processing phase.
lag-time		integer	Amount of time since the last snapmirror transfer in seconds.
last-transfer-duration		integer	Duration of the last SnapMirror transfer in seconds.
last-transfer-from		string	Source location of the last SnapMirror transfer.
last-transfer-size		integer	The size in kilo bytes (1024) of the last SnapMirror transfer.
last-transfer-type		string optional	Last SnapMirror transfer type. Possible values are: "initialize", "store", "schedule", "retry", "retrieve", "resync", and "migrate". Only present when there was a last transfer.
mirror-timestamp		integer	Access time in seconds since Jan 1, 1970.
replication-ops	**[0..2^64-1]**	integer optional	Counter that is incremented for every replication operation. Present during directory processing phase.
source-location		string	The source location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>.
state		string	SnapMirror pair state. Possible values are: "uninitialized", "snapmirrored", "broken-off", "quiesced", "source", and "unknown".
status		string	SnapMirror pair transfer status. Possible values are: "Idle, "Transferring", "Pending", "Aborting", "Migrating", "Quiescing", "Resyncing", "Waiting", "Syncing", "In-sync" and "Paused". In case the previous transfer was failed/aborted and had a restart checkpoint set, the status could be "Idle with restart checkpoint" or "Pending with restart checkpoint". In addition the status could be "Checking", "Fixing" and "Transferring, Checking" when "snapmirror check" command is being run on the destination volume.
transfer-progress		integer	Number of kilo bytes (1024) transfered in a current on-going transfer.

Element definition: **snapmirror-sync-schedule-info**

[top]

Contains the synchronous SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

Name	Range	Type	Description
destination-location		string	The destination location of the schedule. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. The default is false.
max-transfer-rate		integer optional	Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer.
ops-throttle		string	The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the

		optional	mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode.
snapmirror-error		snapmirror-error optional	Present if there is an error for a snapmirror schedule.
source-location		string optional	The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present.
sync-mode		string	This specifies whether the mirror is configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". "full_sync" means that the mirror is configured to run in a fully synchronous mode. "semi_sync" means that the mirror is configured to run in a semi synchronous mode.
tcp-window-size		integer optional	TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value.
visibility-frequency		integer optional	Controls how often the source snapspot will be visible on the destination mirror.

Element definition: **snapmirror-update-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

Element definition: **snapshot-owner-name**

[top]

Snapshot Copy Owner Name

[none]

Element definition: **tieringpolicy-enum**

[top]

Tiering Policy Possible values:

- "snapshot_only" - Tiers volume snapshot copies not associated with active file system to cloud tier.,
- "auto" - Tiers cold volume blocks to cloud tier,
- "none" - Do not tier volume blocks to cloud tier,
- "backup" - Transferred data blocks on DP volume starts on cloud tier.,
- "all" - Tier volume blocks to the cloud tier as soon as possible,
- "archive" - Tier volume blocks to the cloud tier as soon as possible and tagged for a less expensive storage class

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **volume-name-nolink** [top]

Volume Name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **xc-vs-name** [top]

Cross Cluster Vserver Name

[none]

Element definition: **address-pair** [top]

Source and destination address pair.

Name	Range	Type	Description
destination-addr		string	Destination address in the form of filer name or IP address.
source-addr		string	Source address in the form of filer name or IP address.

Element definition: **aggr-name** [top]

Name of the aggregate

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **smendpointtype**

[top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cg-item-mappings		string[] optional	Specifies a list of the Consistency Group (CG) item mappings. This parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable
destination-volume		string optional	Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
			The type of the SnapMirror policy for the relationship. This parameter

policy-type		string optional	is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"
progress-last-updated	**[0..2^31-1]**	integer optional	Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup" , • "vserverflexgroup"
relationship-id		string optional	Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable
relationship-status		string optional	Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the node hosting the source volume joined the quorum. Possible values are: • 'idle', • 'transferring' This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-

			modifiable
source-volume-node		string optional	Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
transfer-progress	**[0..2^63-1]**	integer optional	Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-error**

[top]

Information about a single snapmirror schedule error.

Name	Range	Type	Description
errno		integer	The error number.
reason		string	A human-readable concise reason for the error.

Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
break-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
break-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
catalog-status		string optional	Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are: • 'idle' - No catalog metadata transfer is in progress, • 'transferring' - A catalog metadata transfer is in progress.

			This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-total-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-transfer-snapshot		string optional	Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
cg-item-mappings		string[] optional	Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable
current-max-transfer-rate	**[0..2^32-1]**	integer optional	The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-operation-id		string optional	Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-error		string optional	A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-priority		string optional	Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values: • "low" , • "normal"
current-transfer-type		string optional	The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" , • "cg_update" ,

			• "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later

			operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-volume-node		string optional	Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-vserver-uuid		string optional	A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
exported-snapshot		string optional	The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
exported-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
file-restore-file-count	**[0..2^64-1]**	integer optional	The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
file-restore-file-list		string[] optional	List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
identity-preserve		boolean optional	This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. Attributes: optional-for-create, non-modifiable
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. Attributes: optional-for-create, modifiable

is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
is-healthy		boolean optional	False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable
lag-time	**[0..2^32-1]**	integer optional	The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-duration	**[0..2^32-1]**	integer optional	The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable
last-transfer-end-timestamp	**[0..2^31-1]**	integer optional	The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-error		string optional	A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-error-codes	**[0..2^32-1]**	integer[] optional	List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-from		string optional	The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
last-transfer-size	**[0..2^63-1]**	integer optional	The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
			The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:

last-transfer-type		string optional	• "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" , • "cg_update" , • "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable
mirror-state		string optional	Specifies the mirror state of the SnapMirror relationship. Possible values are: • 'uninitialized' - Destination volume has not been initialized, • 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates, • 'broken-off' - Destination volume is RW and snapshots are present. Attributes: non-creatable, non-modifiable
network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
newest-snapshot		string optional	The name of the newest Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
newest-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
opmask	**[0..2^64-1]**	integer optional	A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable

policy		string optional	Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable
policy-type		string optional	The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "active_sync_mirror"
progress-last-updated	**[0..2^31-1]**	integer optional	A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-control-plane		string optional	The type of the control plane used for the relationship. Possible values are: • 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations. • 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "none" ,

			"vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup"
relationship-id		string optional	A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
relationship-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-status		string optional	Specifies the status of the SnapMirror relationship. Possible values are: • 'idle' - Transfers are enabled, and no transfer is in progress, • 'transferring' - SnapMirror transfers are enabled and a transfer is in progress, • 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1', • 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled, • 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress, • 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system, • 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers, • 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers, • 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway, • 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values: • "data_protection" , • "load_sharing" , • "vault" , • "restore" , • "transition_data_protection" , • "extended_data_protection"
resync-	**[0..2^64-**	integer	The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving

failed-count	**1]**	optional	the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
resync-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
schedule		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable
snapshot-checkpoint	**[0..2^63-1]**	integer optional	The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
snapshot-progress	**[0..2^63-1]**	integer optional	The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the

			source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver-uuid		string optional	A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
total-transfer-bytes	**[0..2^64-1]**	integer optional	Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable
total-transfer-time-secs	**[0..2^32-1]**	integer optional	Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
transfer-snapshot		string optional	The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in progress. Attributes: non-creatable, non-modifiable
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is

			ignored. Attributes: optional-for-create, modifiable
unhealthy-reason		string optional	The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
vserver		string optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable

Element definition: **snapmirror-policy-cap-info**

[top]

Capabilities information for policy types.

Name	Range	Type	Description
default-policy		sm-policy optional	The recommended policy to use for this policy type. Attributes: non-creatable, non-modifiable
default-schedule		string optional	The recommended schedule to use for this policy type. Attributes: non-creatable, non-modifiable
is-licensed		boolean optional	Whether or not there is a license installed that enables using this policy type. If a SnapMirror license is installed, all policy types are licensed. If only a SnapVault license is installed, only policy type vault is licensed. Attributes: non-creatable, non-modifiable
policy-type		sm-policy-type-enum optional	A SnapMirror policy type supported by this endpoint type. Supported values are async_mirror, mirror_vault, and vault. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"

supports-snaplock-dest		boolean optional	Whether or not this policy type supports a SnapLock volume as the destination. Attributes: non-creatable, non-modifiable
supports-snaplock-source		boolean optional	Whether or not this policy type supports a SnapLock volume as the source. Attributes: non-creatable, non-modifiable

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

APIs in Category: **snapmirror-policy**

snapmirror-policy-add-rule
snapmirror-policy-create
snapmirror-policy-delete
snapmirror-policy-get
snapmirror-policy-get-iter
snapmirror-policy-modify
snapmirror-policy-modify-rule
snapmirror-policy-remove-rule

This set of APIs allows management of SnapMirror Policies in a cluster environment including: creation, deletion, modification and information query.

snapmirror-policy-add-rule

[top]

Add a rule to SnapMirror policy

Input Name	Range	Type	Description
keep		string	Specifies the Snapshot copy retention count.
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean optional	Specifies whether Snapshot copy preserve is enabled.
schedule		string optional	Specifies the Snapshot copy creation schedule name associated with the rule.
snapmirror-label		string	Specifies the Snapshot copy label.
warn	**[0..2^32-1]**	integer optional	Specifies the warning threshold count.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-create

[top]

Create the specified SnapMirror Policy

Input Name	Range	Type	Description
archive-after-days	**[0..2^32-1]**	integer optional	Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later.
are-data-ops-sequentially-split		boolean optional	Configure splitter to split all data ops sequentially.
comment		string optional	A human readable description associated with the SnapMirror policy.
common-snapshot-schedule		string optional	Specifies the common Snapshot copy creation schedule associated with the rule.
disable-fast-resync		boolean optional	Specifies whether fast resync for a SnapMirror Synchronous relationship is disabled or not. This parameter is only available on ONTAP 9.12.1 and later.
discard-configs		svmdr-config-obj[] optional	Configurations Not Replicated During Identity Preserve Vserver DR Possible values: • "network" - Network
ignore-atime		boolean optional	Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only.
is-network-compression-enabled		boolean optional	Specifies whether network compression is enabled for transfers. The default value is 'false'.
keep		string[] optional	Specifies the Snapshot copy retention count.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship.
owner		policy-owner optional	The owner of the SnapMirror policy. Possible values: • "cluster_admin" , • "vserver_admin"
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string[] optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean[] optional	Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination.
			Defines the behavior of SnapMirror if an interrupted transfer

restart		sm-restart-enum optional	exists. Applies to SnapMirror data protection relationship only. Possible values: • "always" , • "never" , • "default"
return-record		boolean optional	If set to true, returns the snapmirror-policy on successful creation. Default: false
schedule		string[] optional	Specifies the Snapshot copy creation schedule name associated with the rule.
sequential-split-op-timeout-secs	**[0..2^32-1]**	integer optional	Configure sequential split op timeout.
snapmirror-label		string[] optional	Specifies the Snapshot copy label.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values: • "low" , • "normal"
transfer-schedule-name		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationships.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'.
type		sm-policy-type-enum optional	The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"
warn	**[0..2^32-1]**	integer[] optional	Specifies the warning threshold count.
window-size-for-tdp-mirror		size optional	Window size for TDP Mirror Transfer Operations. The default size is 2MB.

Output Name	Range	Type	Description
		snapmirror-	The snapmirror-policy created (keys or the entire object if

result		policy-info optional	requested)

Errno	Description
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-delete

[top]

Delete the specified SnapMirror Policy

Input Name	Range	Type	Description
policy-name		sm-policy	The name of the SnapMirror policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
EPOLICY_CANNOT_DELETE_BUILTIN	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-get

[top]

Get Information about a single SnapMirror Policy

Input Name	Range	Type	Description
desired-attributes		snapmirror-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		sm-policy	The name of the SnapMirror policy.

Output Name	Range	Type	Description
attributes		snapmirror-policy-info	The attributes of the snapmirror-policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-policy-get-iter

[top]

Get Information about multiple SnapMirror Policies

Input Name	Range	Type	Description
desired-attributes		snapmirror-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-policy object. All snapmirror-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-policy-info[] optional	The list of attributes of snapmirror-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-policy-modify

[top]

Modify the specified SnapMirror Policy

Input Name	Range	Type	Description
archive-after-days	**[0..2^32-1]**	integer optional	Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later.

are-data-ops-sequentially-split		boolean optional	Configure splitter to split all data ops sequentially.
comment		string optional	A human readable description associated with the SnapMirror policy.
common-snapshot-schedule		string optional	Specifies the common Snapshot copy creation schedule associated with the rule.
disable-fast-resync		boolean optional	Specifies whether fast resync for a SnapMirror Synchronous relationship is disabled or not. This parameter is only available on ONTAP 9.12.1 and later.
discard-configs		svmdr-config-obj[] optional	Configurations Not Replicated During Identity Preserve Vserver DR Possible values: • "network" - Network
ignore-atime		boolean optional	Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only.
is-network-compression-enabled		boolean optional	Specifies whether network compression is enabled for transfers. The default value is 'false'.
keep		string[] optional	Specifies the Snapshot copy retention count.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship.
owner		policy-owner optional	The owner of the SnapMirror policy. Possible values: • "cluster_admin" , • "vserver_admin"
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string[] optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean[] optional	Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination.
restart		sm-restart-enum optional	Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Possible values: • "always" , • "never" , • "default"
schedule		string[] optional	Specifies the Snapshot copy creation schedule name associated with the rule.
sequential-split-op-timeout-secs	**[0..2^32-1]**	integer optional	Configure sequential split op timeout.
snapmirror-label		string[] optional	Specifies the Snapshot copy label.

transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values: • "low" , • "normal"
transfer-schedule-name		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationships.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'.
warn	**[0..2^32-1]**	integer[] optional	Specifies the warning threshold count.
window-size-for-tdp-mirror		size optional	Window size for TDP Mirror Transfer Operations. The default size is 2MB.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-modify-rule

[top]

Modify a SnapMirror policy rule

Input Name	Range	Type	Description
keep		string optional	Specifies the Snapshot copy retention count.
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean optional	Specifies whether Snapshot copy preserve is enabled.
schedule		string optional	Specifies the Snapshot copy creation schedule name associated with the rule.
snapmirror-label		string	Specifies the Snapshot copy label.
warn	**[0..2^32-1]**	integer optional	Specifies the warning threshold count.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-remove-rule

[top]

Remove a rule from SnapMirror policy

Input Name	Range	Type	Description
policy-name		sm-policy	The name of the SnapMirror policy.
snapmirror-label		string	Specifies the Snapshot copy label.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-policy-type-enum** [top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

Element definition: **sm-restart-enum** [top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

Element definition: **sm-transfer-priority-enum** [top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

Element definition: **snapmirror-policy-info** [top]

Information about SnapMirror Policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
archive-after-days	**[0..2^32-1]**	integer optional	Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. Attributes: optional-for-create, modifiable
are-data-ops-sequentially-split		boolean optional	Configure splitter to split all data ops sequentially. Attributes: optional-for-create, modifiable
comment		string optional	A human readable description associated with the SnapMirror policy. Attributes: optional-for-create, modifiable
common-snapshot-schedule		string optional	Specifies the common Snapshot copy creation schedule associated with the rule. Attributes: optional-for-create, modifiable
create-snapshot		boolean optional	Specifies whether a new Snapshot Copy is created at the time of a SnapMirror transfer. This field is only applicable on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable
disable-fast-resync		boolean optional	Specifies whether fast resync for a SnapMirror Synchronous relationship is disabled or not. This parameter is only available on ONTAP 9.12.1 and later. Attributes: optional-for-create, modifiable
discard-configs		svmdr-config-obj[] optional	Configurations Not Replicated During Identity Preserve Vserver DR Attributes: optional-for-create, modifiable Possible values: • "network" - Network
ignore-atime		boolean optional	Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. Attributes: optional-for-create, modifiable
is-network-compression-enabled		boolean optional	Specifies whether network compression is enabled for transfers. The default value is 'false'. Attributes: optional-for-create, modifiable
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. Attributes: optional-for-create, modifiable
			The owner of the SnapMirror policy. Attributes: optional-for-

owner		policy-owner optional	create, modifiable Possible values: • "cluster_admin" , • "vserver_admin"
policy-name		sm-policy optional	The name of the SnapMirror policy. Attributes: key, required-for-create, non-modifiable
restart		sm-restart-enum optional	Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Attributes: optional-for-create, modifiable Possible values: • "always" , • "never" , • "default"
sequential-split-op-timeout-secs	**[0..2^32-1]**	integer optional	Configure sequential split op timeout. Attributes: optional-for-create, modifiable
snapmirror-policy-rules		snapmirror-policy-rule-info[] optional	Information about rules in the policy.
total-keep	**[0..2^32-1]**	integer optional	Total Retention Count for All Rules in the Policy Attributes: non-creatable, non-modifiable
total-rules	**[0..2^32-1]**	integer optional	Total Rules in the Policy Attributes: non-creatable, non-modifiable
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Attributes: optional-for-create, modifiable Possible values: • "low" , • "normal"
transfer-schedule-name		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. Attributes: optional-for-create, modifiable
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. Attributes: optional-for-create, modifiable
type		sm-policy-type-enum optional	The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Attributes: optional-for-create, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" ,

			• "continuous"
vserver-name		vserver-name optional	Specifies the vserver for the SnapMirror policy. Attributes: key, non-creatable, non-modifiable
window-size-for-tdp-mirror		size optional	Window size for TDP Mirror Transfer Operations. The default size is 2MB. Attributes: optional-for-create, modifiable

Element definition: **svmdr-config-obj**

[top]

network Possible values:

- "network" - Network

[none]

Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

Element definition: **sm-restart-enum**

[top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

Element definition: **sm-transfer-priority-enum**

[top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

Element definition: **snapmirror-policy-rule-info**

[top]

Information about rules in the policy.

Name	Range	Type	Description
keep		string optional	Specifies the maximum number of Snapshot copies that are retained on the SnapMirror destination volume for a rule. The total number of Snapshot copies retained for all the rules in a policy cannot exceed 251 on Data ONTAP 9.3 or earlier and 1019 on Data ONTAP 9.4 or later. For all the rules in SnapMirror policies of type async-mirror, this parameter must be set to value '1'. Attributes: optional-for-create,

			modifiable
prefix		string optional	Specifies the Snapshot copy creation prefix name associated with the rule. Attributes: optional-for-create, modifiable
preserve		boolean optional	Specifies the behavior when the Snapshot copy retention count is reached on the SnapMirror vault destination for the rule. The default value is 'false', which means that the oldest Snapshot copy will be rotated out to make room for new ones only if the number of Snapshot copies has exceeded the retention count specified in the keep parameter. When set to 'true', an incremental SnapMirror vault update will fail when the Snapshot copies have reached the retention count. For all the rules in SnapMirror policies of type async-mirror this parameter must be set to value 'false'. Attributes: optional-for-create, modifiable
schedule		string optional	Specifies the Snapshot copy creation schedule name associated with the rule. Attributes: optional-for-create, modifiable
snapmirror-label		string optional	Specifies the Snapshot copy label. It is used for the purpose of Snapshot copy selection for extended data protection relationships. Snapshot copies that have a SnapMirror label that matches this parameter will be transferred to the SnapMirror destination. The label can be 31 or fewer characters in length. SnapMirror policies of type async-mirror and mirror-vault have a rule added for label 'sm_created' at the time of policy creation. This rule cannot be removed or modified by the user. This rule when coupled with create-snapshot field set to 'true' indicates that the SnapMirror relationship using this policy shall create a new Snapshot copy and transfer it as part of an update operation. SnapMirror policies of type async-mirror support one additional rule with SnapMirorr label 'all_source_snapshots'. This rule along with the rule for SnapMirror label 'sm_created' indicates that all new Snapshot copies on the primary volume along with the newly created Snapsho158 :transferred on an initialize or update operation. Rules with any other SnapMirror labels may not be added to SnapMirror policies of type async-mirror. The rule for label sm_created when added to a SnapMirror policy of type vault indicates that all SnapMirror created Snapshot copies of the primary volume are selected for transfer. Attributes: optional-for-create, modifiable
warn	**[0..2^32-1]**	integer optional	Specifies the warning threshold count for the rule. The default value is 0. When set to a value greater than zero, an event is generated after the remaining number of Snapshot copies (for the particular rule) retained on a SnapMirror vault destination reaches the specified warn limit. The preserve parameter for the rule must be 'true' to set the warn parameter to a value greater than zero. Attributes: optional-for-create, modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **snapshot**

snapshot-autodelete-list-info
snapshot-autodelete-set-option
snapshot-create
snapshot-create-async
snapshot-delete
snapshot-delete-async
snapshot-delta-info
snapshot-get-iter
snapshot-get-reserve
snapshot-get-schedule
snapshot-list-info
snapshot-modify-iter
snapshot-modify-snaplock-expiry-time
snapshot-multicreate
snapshot-multicreate-validate
snapshot-multidelete
snapshot-multirename
snapshot-partial-restore-file
snapshot-partial-restore-file-list-info
snapshot-policy-add-schedule
snapshot-policy-create
snapshot-policy-delete
snapshot-policy-get
snapshot-policy-get-iter
snapshot-policy-modify
snapshot-policy-modify-schedule
snapshot-policy-remove-schedule
snapshot-reclaimable-info
snapshot-rename
snapshot-reserve-list-info
snapshot-restore-file
snapshot-restore-file-info
snapshot-restore-volume
snapshot-restore-volume-async
snapshot-set-reserve
snapshot-set-schedule
snapshot-volume-info

snapshot-autodelete-list-info

[top]

Returns the current snapshot autodelete settings.

Input Name	Range	Type	Description
volume		string	Name of the existing volume for which we want snapshot autodelete settings

Output Name	Range	Type	Description
options		snapshot-autodelete-info[]	List of snapshot autodelete options for this volume.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EINTERNALERROR	
EMULTIPLEVOLSFOUND	
EVOLUMENOTONLINE	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-autodelete-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the autodelete settings of the specified volume.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
			Name of the option to be set. Possible values: "state" (value: "on" | "off") This option determines if the snapshot autodelete is currently enabled for the volume. Setting the option to "on" switches on the snapshot autodelete for the volume. Setting the option to "off" switches off the snapshot autodelete for the volume. "commitment" (value: "try" | "disrupt" | "destroy") This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume, LUN, NVMe namespace and File clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume, LUN and File clones) to be deleted. Setting this option to "destroy", will destroy the data backing functionality (volume, LUN, NVMe namespace and File clones) if the backing snapshot is deleted.

option-name		string	"trigger" (value: "volume" | "snap_reserve" | "(DEPRECATED)-space_reserve") This option determines the condition which starts the automatic deletion of snapshots. Setting this option to "volume" triggers automatic deletion of snapshots when the volume reaches threshold capacity and the volume's snap reserve has been exceeded. Setting the option to "snap_reserve" triggers automatic deletion of snapshots when the snap reserve of the volume reaches threshold capacity. Setting the option to (DEPRECATED)-"space_reserve" triggers automatic deletion of snapshots when the space reserved the volume reaches threshold capacity and the volume's snap reserve has been exceeded. NOTE: The option "space_reserve" is deprecated. The threshold capacity is determined by the size of the volume as given below: • If the volume size is less than 20 GB, the autodelete threshold is 85%. • If the volume size is equal to or greater than 20 GB and less than 100 GB, the autodelete threshold is 90%. • If the volume size is equal to or greater than 100 GB and less than 500 GB, the autodelete threshold is 92%. • If the volume size is equal to or greater than 500 GB and less than 1 TB, the autodelete threshold is 95%. • If the volume size is equal to or greater than 1 TB, the autodelete threshold is 98%. "target_free_space" (value: <number>) This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage. "delete_order" (value: newest_first | oldest_first) This option determines if the oldest or newest snapshot is deleted first. "defer_delete" (value: scheduled | user_created | prefix | none) This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices. "prefix" (value: <string>) This option can be set to provide the prefix string for the "prefix" value of the "defer_delete" option. The prefix string length can be 15 char long. "destroy_list" (value: <string>) A comma separated list of services which can be destroyed if the snapshot backing that service is deleted. For 7-mode, the possible values for this option are a combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". For cluster-mode, the possible values for this option are a combination of "lun_clone,file_clone" (for LUN/NVMe namespace clone and/or file clone), "lun_clone,sfsr" (for LUN/NVMe namespace clone and/or sfsr), "vol_clone", "cifs_share", or "none". Please note that "lun_clone", "file_clone" and "sfsr" individually are not valid values. Only pairs "lun_clone,file_clone" and "lun_clone,sfsr" are supported. The option "sfsr" is not supported for

			7-mode. The default value is "none" for 7-mode and cluster-mode.
option-value		string	The value to set the named option
volume		string	Name of the volume for which we want to change autodelete settings.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
EVSERVERNOTFOUND	
EINTERNALERROR	
EONTAPI_EVOLOPNOTSUPP	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRIGGER	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-create

[top]

Create a new snapshot on a specified volume.

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
async		boolean optional	If true, the snapshot is to be created asynchronously. The default value is false.
comment		string optional	A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. This parameter is not supported on FlexGroups.
expiry-time	**[0..2^32-1]**	integer optional	Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode.
is-valid-lun-clone-snapshot		boolean optional	If true, the snapshot create has been requested by snapvault hence all backing snapshots for all the LUN clones in this snapshot will be locked. This ensures the consistency of this snapshot. The default value is false.
snapmirror-label		string optional	A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshot that is created and will be used by the vaulting system to identify a vaulting scheme. This parameter is not supported on FlexGroups.

snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.
volume		string	Name of the volume on which the snapshot is to be created. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.

Errno	Description
ESNAPSHOTEXISTS	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
ENOMORESNAPS	
ESNAPSHOTNOSPACE	
EONTAPI_ENOMEM	
EONTAPI_ETIMEDOUT	
EONTAPI_EINVAL	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
ECLONEINPROGRESS	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	
EAPIMISSINGARGUMENT	
ESNAPSHOTTAGSNOSPACE	
ENOSESSION	
ESNAPSHOTDOESNOTEXIST	
ESNAPDBNOTINITED	

Vfiler-enabled
Yes

snapshot-create-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new snapshot on a specified Infinite Volume.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

Input Name	Range	Type	Description
comment		string optional	A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters.
snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.

volume		string	Name of the Infinite Volume on which the snapshot is to be created. The Infinite Volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
ESNAPSHOTEXISTS	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
ENOMORESNAPS	
ESNAPSHOTNOSPACE	
EONTAPI_ENOMEM	
EONTAPI_ETIMEDOUT	
EONTAPI_EINVAL	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
ESNAPSHOTTAGSNOSPACE	
ESNAPSHOTDOESNOTEXIST	
ESNAPDBNOTINITED	

snapshot-delete

[top]

Delete a snapshot on a specified volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
ignore-owners		boolean optional	If this field is true, snapshot will be deleted even if some other processes are accessing it. The default value is false.
snapshot		string	Name of snapshot to be deleted on the specified volume.
snapshot-instance-		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter.

uuid			An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412
volume		string	Name of the volume on which the snapshot is to be deleted.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EAPIERROR	
ESNAPSHOTNOTALLOWED	
EONTAPI_EBUSY	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EONTAPI_ETIMEDOUT	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	
EAPIMISSINGARGUMENT	
ESNAPSHOTBUSY	
ESNAPDBNOTINITED	

Vfiler-enabled
Yes

snapshot-delete-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete a snapshot on a specified Infinite Volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the Infinite Volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

Input Name	Range	Type	Description
ignore-owners		boolean optional	If this field is true, snapshot will be deleted even if some other processes are accessing it. The default value is false.
snapshot		string	Name of snapshot to be deleted on the specified Infinite Volume.

snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412
volume		string	Name of the Infinite Volume on which the snapshot is to be deleted.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EAPIERROR	
ESNAPSHOTNOTALLOWED	
EONTAPI_EBUSY	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	
EVOLUME_TYPE_NOT_SUPPORTED	
ESNAPDBNOTINITED	

snapshot-delta-info

[top]

Returns the amount of space consumed between two snapshots or a snapshot and active filesystem.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
snapshot1		string	Name of snapshot to be compared with snapshot2 for space consumption calculations.
snapshot2		string optional	Name of snapshot to be compared with snapshot1 for space consumption calculations. If the snapshot is not specified, it is assumed to be Active File System.
volume		string	Name of the volume on which the snapshot delta is to be calculated.

Output Name	Range	Type	Description

consumed-size		integer	Size in bytes of space changed between the 2 specified snapshots or snapshot and the active file system. Range : [0 - 2^63-1].
elapsed-time		integer	Time in seconds elapsed between the 2 specified snapshots or the snapshot and the active file system. Range : [0 - 2^31-1].

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EINTERNALERROR	
EMULTIPLEVOLSFOUND	
EOBJECTNOTFOUND	
EVOLUMENOTONLINE	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EAPIMISSINGARGUMENT	
EONTAPI_ETIMEDOUT	
EONTAPI_EAGAIN	

Vfiler-enabled
Yes

snapshot-get-iter

[top]

Iterate over a list of snapshot objects.

Input Name	Range	Type	Description
desired-attributes		snapshot-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapshot-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapshot-info[] optional	The list of attributes of snapshot objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapshot objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
volume-errors		volume-error[] optional	Volume Error Info

Errno	Description
EINTERNALERROR	

snapshot-get-reserve

[top]

Obtain the current snapshot reserve on a specified volume. Error Returns: Invalid volume name.

Input Name	Range	Type	Description
volume		string	Name of the volume that contains the snapshot reserve.

Output Name	Range	Type	Description
blocks-reserved		integer	The number of 1024 byte blocks that has been set aside as reserve for snapshot usage.
percent-reserved		integer	The percentage of disk space that has been set aside as reserve for snapshot usage.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
E_VOLUME_INACCESSIBLE	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-get-schedule

[top]

Obtain the current snapshot schedule on a specified volume.

This API is not the preferred way of obtaining snapshot schedule information in Clustered Data ONTAP. Snapshot schedule information for a given volume may be obtained in Clustered Data ONTAP by using the following steps:

- Issue API 'volume-get-iter' and record the 'snapshot-policy' field.
- Issue API 'snapshot-policy-get' and use the previously obtained 'snapshot-policy' field as input to find out information about all the schedules attached to the given policy.
- Issue API 'job-schedule-get' to obtain information about each individual schedule in the given snapshot policy.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
volume		string	This the volume name where the snapshots are located.

Output Name	Range	Type	Description
days		integer	The number of snapshots taken daily to keep on line. Range : [0..2^32-1].
hours		integer	The number of snapshots taken hourly to keep on line. Range : [0..2^32-1].
minutes		integer	The number of snapshots taken minutely to keep on line. Range : [0..2^32-1].
weeks		integer	The number of snapshots taken weekly to keep on line. Range : [0..2^32-1].
which-hours		string	A list of the hours at which the hourly snapshots are created.
which-minutes		string	A list of the minutes at which the minutely snapshots are created.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EUSECLUSTERNATIVEUI	
EMULTIPLEVOLSFOUND	
EVOLUMEBUSY	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-list-info

[top]

Return snapshot information for a specified volume. A list of snapshots and information about each snapshot is returned. In Data ONTAP Cluster-Mode, 'snapshot-get-iter' API is the preferred way of retrieving snapshot information.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
is-7-mode-snapshot		boolean optional	If set to true, check if snapshot is a 7-mode snapshot. A 7-mode snapshot can appear in a cluster-mode volume as a result of the volume being transitioned from 7-mode to cluster-mode. A 7-mode snapshot cannot be used in a volume snapshot restore. The default value is false.
lun-clone-snapshot		boolean optional	If set to true, check if snapshot contains any LUN or NVMe namespace clones. The default value is false.
snapowners		boolean optional	If set to true, owners of the busy snapshot are returned. If false, or if the option is omitted, the list of owners is not returned.
target-name		string optional	Name of the object on which to list the snaplist information. Arguments "target-name" and "target-type" should be used together. Arguments "volume" and ("target-name", "target-type") pair are mutually exclusive. One and only one of them should be specified.
target-type		string optional	Type of the object on which to list the snaplist information. Possible values: volume, aggregate.
terse		boolean optional	If set to true, the snapshot block ownership values, namely the "total" and "cumulative-total" outputs, will be omitted. If set to false, the block ownership calculation will be included in the output. The default value is false.
volume		string optional	Name of the volume on which to list the snaplist information. It is for backward compatibility. The recommended usage is to use arguments ("target-name", "target-type") pair.

Output Name	Range	Type	Description
snapshots		snapshot-info[] optional	

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EVOLUMEBUSY	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	

Vfiler-enabled
Yes

snapshot-modify-iter

[top]

Modify the attributes of snapshot or a group of snapshot objects.

Input Name	Range	Type	Description
attributes		snapshot-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple snapshot objects match a given query. If set to true, the API will continue modifying the next matching snapshot even when modification of a previous snapshot fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching snapshot even when the modification of a previous matching snapshot fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		snapshot-info	If modifying a specific snapshot, this input element must specify all keys. If modifying snapshot objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapshot objects (just keys) that were not modified due to some error. If set to false, the list of snapshot objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapshot objects (just keys) that were successfully updated. If set to false, the list of snapshot objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapshot-modify-iter-info[] optional	Information about snapshot objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapshot objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of snapshot objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapshot objects that matched the query and were successfully updated.
success-list		snapshot-modify-iter-info[] optional	The snapshot objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	

snapshot-modify-snaplock-expiry-time

[top]

Modifies snaplock expiry time of a snapshot copy. Expiry time can only be extended from existing expiry time.

Input Name	Range	Type	Description
expiry-time		integer optional	
infinite-expiry-time		boolean optional	If this option is set to true, API will set the infinite expiry time on the specified snapshot copy.
snapshot		string nonempty	Specifies the name of the snapshot copy for which snaplock expiry time needs to be modified. The snapshot must have already been retained by snaplock.
volume		string	Specifies the name of the volume that contains snapshot copy.

Errno	Description
ENOENT	
EONTAPI_EWORMMNOTWORMA	
EONTAPI_EWORMNOCLOCK	
EINTERNALERROR	
EONTAPI_EWORMVOLNOTWORM	
EVOLUMEOFFLINE	

snapshot-multicreate

[top]

Create a snapshot with the specific name, on each of the specified volumes. It is the caller's responsibility to ensure that the data in the snapshots across all volumes is consistent, by quiescing I/O to these volumes (or the LUNs or NVMe namespaces of interest in these volumes), across the call to this API. The API is asynchronous by default and responds once the snapshot creation consistency point starts. To make it synchronous this API should be called with the async flag set as false by using wait-for-sync parameter. When a failure is encountered while creating a Snapshot copy on a volume, this API stops and returns the error immediately. It does not continue on to create Snapshot copies on the remaining volumes. When the API fails, the returned error code is for the failed volume. For clustered systems, the output 'status' will be set to FALSE in case of failure. In such case the caller should look at the output 'volume-errors' to find out in which volume snapshot creation failed. When an error occurs, it is possible that some snapshots may have been created. If the option cleanup is set to TRUE (default), API will attempt to delete these snapshots (but snapshot deletion may fail). When set to FALSE, it is users' responsibility to delete them. The output array volume-snapcreated-list records for each volume, if a snapshot has been created or not. There are at least two expected use cases for this API. The first one is to call this API with the cleanup option set to TRUE (default). If the call fails, any successfully created snapshots will be deleted before the function returns. This is a simple use case, but has the downside that in case of a failure, the call may take a long time to return due to snapshot cleanup. Another use case would be to call this API in a time critical environment. In such a scenario, it would be good to reduce the impact due to a failure. Hence, it would be better to first call the snapshot-multicreate-validate ZAPI, which would reduce the likelihood of failure of the snapshot-multicreate API. In case a failure does occur, the caller could avoid the cleanup delay by setting the cleanup option to FALSE, and performing snapshot cleanup later, outside the time-critical window.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description

cleanup		boolean optional	When the API fails, some snapshots may have been created for some volumes. When set to TRUE, the API will attempt to delete these snapshots. Note that newly created snapshots cannot be deleted right away until the snapshots are on-disk, which may take up to 10 secs. When set to FALSE, newly created snapshots are not deleted. Users can delete them later as needed. Default is TRUE.
snapmirror-label		string optional	The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters
snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.
volume-names		volume-name[]	Names of the volumes across which the snapshot is to be created. The maximum number of volumes on a cluster system is 1200 (100 for traditional volumes and 500 for flexible volumes. The number is then doubled for a cluster system).
wait-for-sync		boolean optional	Specifies if we should wait for the snapshot creating consistency point to complete before responding to the user for the multicreate API. Default value is 'false'.

Output Name	Range	Type	Description
status		boolean optional	Set to 'FALSE' in case of failure of the API. The output 'volume-errors' will contain the error code and reason for the volume on which snapshot creation failed. This output is only returned for clustered systems.
volume-errors		volume-error[] optional	Error code and reason due to which snapshot creation failed on a volume. This output is only returned for clustered systems.
volume-is-snapcreated-list		volume-is-snapcreated[] optional	An array records if a snapshot has been created for a given volume. This is returned only in case of failure.

Errno	Description
ESNAPSHOTEXISTS	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
ENOMORESNAPS	
ESNAPSHOTNOSPACE	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EONTAPI_EWORMPERIOD	
EONTAPI_EWORMNOCLOCK	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	

EINVALIDINPUTERROR
EOPNOTSUPPORTED
EAGGRRELOCATING
EAGGRINSWITCHBACK
EOP_DISALLOWED_DURING_GIVEBACK
EAGGRFAILINGOVER
EHALTING
EAPIMISSINGARGUMENT

Vfiler-enabled
Yes

snapshot-multicreate-validate

[top]

This is a companion API of snapshot-multicreate. It validates the snapshot creation operation on the specified volumes. But it does not actually create any snapshot. This API only does validations on all volumes and report all errors in the output array. This API is intended to be issued before the snapshot-multicreate API to find out all the errors that may be found during the snapshot create. Its main purpose is to enable snapshot-multicreate's caller to reduce the likelihood of snapshot-multicreate's failure, thereby attempting to avoid the cleanup overhead (of deleting any newly created snapshots) during failure processing. However, this validation API does not guarantee that snapshot-multicreate API will actually work. Something could change between the two calls to cause the actual snapshot creations to fail.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.
volume-names		volume-name[]	Names of the volumes across which the snapshot creation is to be validated.

Output Name	Range	Type	Description
volume-errors		volume-error[]	An array records the error code associated with each volume.

Errno	Description
EONTAPI_EINVAL	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EOPNOTSUPPORTED	
EVOLUMEBUSY	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-multidelete

[top]

Delete the snapshot from the given flexible volumes. This API will return failure if the volume could not be found or it is busy. All the volumes should be online when this API is invoked. It will only delete snapshots on Read-Write volumes. Once all the necessary information to delete snapshots is available, this API will start deleting snapshots on the volumes. If any of the snapshot delete failed, the API will remember the failed volume and continue deleting snapshot on the remaining volumes. In case of failure to delete the snapshots from all the given volumes, the API will return a SUCCESS and also return information about the failed snapshot deletes via the 'volume-errors' output. If the API returns SUCCESS, the applications should check if the 'volume-errors' output is returned or not to check for failed snapshot deletions.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
reverting		boolean optional	When the reverting flag is set to true, this API will delete a snapshot on each volume that was created in the current release. The default value is false.
reverting-fg		boolean optional	When the reverting FG flag is set to true, this API will delete a snapshot that was created in the current release on each flexgroup. The default value is false.
snapshot		string nonempty optional	Name of the snapshot to be deleted. The maximum string length is 256 characters. This field is ignored when the reverting flag is set to true.
snapshot-tags		d-snapshot-tag-info[] optional	If the snapshot is locked by the given snapshot tag, the snapshot lock will be ignored and the snapshot will be deleted.
use-snapshot-as-prefix		boolean optional	If this option is set to true, this API will delete all snapshots whose names start with the given snapshot name from the volumes specified in the input. The snapshots will be deleted asynchronously in the background. If set to true, the API will not return a list of volume errors. The default value is false.
volume-names		volume-name[]	Names of the volumes across which the snapshot is to be deleted.
			The identities of the volumes from which the snapshot will be deleted. The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second

volume-uuids		UUID[] optional	through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 This field is ignored when the reverting flag is set to true.

Output Name	Range	Type	Description
snapshots-deleted		integer optional	The number of snapshots deleted.
volume-errors		volume-error[] optional	Error code and reason due to which snapshot deletion failed on a volume. This output is only returned when the API returns SUCCESS but snapshot on some volumes could not be deleted.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
ESNAPSHOTBUSY	
EONTAPI_ENOMORESNAPS	

snapshot-multirename

[top]

Rename Snapshot copies with a specific name to a new name across multiple volumes. The API processes all the specified volumes even if rename fails on one or more volumes. The snapshot-multirename-errors field should be inspected for failures even if the API is successful.This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
new-snapshot-name		snapshot-id	The new snapshot name.

snapshot-name		snapshot-id	The current snapshot name.
volume-names		volume-name[]	Names of the volumes across which the snapshot is to be renamed.

Output Name	Range	Type	Description
snapshot-multirename-errors		snapshot-multirename-error[] optional	Information of the error details for snapshot multirename operation

Errno	Description
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVOLUMEDOESNOTEXIST	
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
ESNAPSHOTNOSPACE	

snapshot-partial-restore-file

[top]

Restores a particular range of bytes in a file from a specified snapshot.

Partial file restores are used to restore particular pieces of LUNs, NVMe namespace and NFS or CIFS container files that are used by a host to store multiple sources of data. For example, a host may be storing multiple user databases in the same LUN. A partial file restore can be used to restore one of those databases in the LUN while not touching the other databases that are also stored in the LUN. Compressed files will not be restored, though compression may be enabled on the volume.

Partial file restores require significant management by the caller. The caller must understand the metadata of the host LUN, NVMe namespace or container file so that they can know which bytes belong to the object being restored.

Partial file restore is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN.

Before the restore operation begins, the caller must quiesce the object being restored. It must remain quiesced for the duration of the restore operation. No host I/O should be issued for the object while it is being restored because the snapshot-partial-restore-file commands will be incrementally restoring the file, LUN, or NVMe namespace and the host will therefore see inconsistent content for the object until the restore operation is completed. Host I/O is permitted for the other objects stored in the LUN, NVMe namespace or container file because the partial file restore will not touch the bytes belonging to those other objects.

During the restore the caller must issue a snapshot-partial-restore-file command for each of the byte ranges that belong to the object being restored, based on the metadata of the LUN, NVMe namespace or container file. Once each command returns, that byte range is restored and the changes are persistent. If the filer should halt while processing a command, that byte range of the LUN, NVMe namespace or container file is inconsistent. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. Once the filer is rebooted the

caller should re-issue the command to restore that byte range to complete the restore.

Once the restore is completed, the caller must purge any host operating system or application buffers that may hold data for the file, LUN, or NVMe namespace that is now stale. For NFS or CIFS mounted volumes the easiest way to purge any host buffers is to unmount and remount the volume. Applications holding buffered data may need to be shut down and restarted.

Multiple partial file restore requests may be issued to the same file, LUN, or NVMe namespace simultaneously. There is no requirement that the requests are all restoring from the same snapshot so that multiple restore operations for different objects may be concurrent on the same file. There is no checking to prevent overlapping byte ranges between requests. Preventing this condition is the responsibility of the caller.

Partial file restores are not intended for restoring parts of normal user-level files that are stored in an NFS or CIFS exported volume. Use snapshot-restore-file to restore normal files like these.

The volume where the LUN, NVMe namespace or container file to restore and where the snapshot to restore from live must be online and must not be a mirror volume.

The partial file restore request may fail if there is not sufficient free space to overwrite all of the blocks in the byte range to be restored.

The partial file restore request is synchronous, meaning that the command will not return until the entire byte range is restored. The snapshot being restored from cannot be deleted while a request is being executed, but it can be deleted between requests. If this happens the next request will notice that the snapshot has been deleted and will return an error.

The maximum number of bytes of data that can be restored in a single request is given by the max-byte-count value returned by the snapshot-partial-restore-file-list-info command. This limit ensures that requests are periodically interruptible and avoids overloading the filer.

If the system halts while a partial file restore request is being executed, the request will not be restarted upon reboot. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. The caller should reissue the partial file restore request for that byte range to complete the restore.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
byte-count		integer	The number of bytes to restore, beginning at start-byte. The byte count must be a multiple of 4096. Use snapshot-partial-restore-file-list-info to determine the maximum number of bytes that can be restored in a single request. Range : [0 - 2^64-1]
path		string	Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used.
snapshot		string	The simple name of the snapshot to restore from. The snapshot must be from same volume as the file to partially restore.
snapshot-instance-uuid		string optional	A unique physical version identifier for a given snapshot within a volume or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9
start-byte		integer	The starting byte offset in the file to partially restore. The first byte of the file is byte zero. The start byte must be a multiple of 4096. Range : [0 - 2^64-1]
volume		string optional	Volume to restore to/from. If this is passed in, the path argument should be relative to the volume.

Errno	Description
EVSERVERNOTFOUND	

EVSERVER_OP_NOT_ALLOWED	
EONTAPI_EVOLOPNOTSUPP	
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_EBUSY	
EINVALIDINPUTERROR	
EVOLUMEBUSY	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	
EVDISK_ERROR_7MODE_LUN	
EOP_DISALLOWED_VOL_IS_SYNC_SM	
EVDISK_INVALID_SECTOR_SIZE	
EVDISK_LUN_CROSS_NVME_NS	
EVDISK_NVME_NS_CROSS_LUN	

Vfiler-enabled
Yes

snapshot-partial-restore-file-list-info

[top]

Returns partial file restore settings of the vserver.

This API is not supported on FlexGroups or Infinite Volumes.

Output Name	Range	Type	Description
max-byte-count		integer	The maximum number of bytes that can be restored in a single request. This limit ensures that requests are periodically interruptible and avoids overloading the filer. Range : [0 - 2^64-1]

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEBUSY	

Vfiler-enabled
Yes

snapshot-policy-add-schedule

[top]

Add a new schedule to the Snapshot Policy. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs.

Input Name	Range	Type	Description
count	**[0..1023]**	integer	The maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023.
		snapshot-	A human readable string describing the name of the snapshot

policy		policy	scheduling policy.
prefix		string optional	The snapshot name prefix for the schedule. This field should be unique within the policy.
schedule		string	A human readable string describing the name of a new schedule to be added inside the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly' or 'daily' or it can be a user created schedule.
snapmirror-label		string optional	The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapshot-policy-create

[top]

This API creates a Snapshot policy and adds the schedules to it. A Snapshot policy includes at least one schedule, up to a maximum of 5 schedules, and a maximum number of Snapshot copies per schedule. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs. When applied to a volume, the Snapshot policy specifies the schedule on which Snapshot copies are taken and the maximum number of Snapshot copies that each schedule can take. The total count of all the Snapshot copies to be retained for the policy cannot be more than 1023.

Input Name	Range	Type	Description
comment		string optional	A human readable description associated with the snapshot policy. The maximum length of this field can be 255 characters.
count1	**[0..1023]**	integer	Retention count for the snapshots created by the first schedule.
count2	**[0..1023]**	integer optional	Retention count for the snapshots created by the second schedule.
count3	**[0..1023]**	integer optional	Retention count for the snapshots created by the third schedule.
count4	**[0..1023]**	integer optional	Retention count for the snapshots created by the fourth schedule.
count5	**[0..1023]**	integer optional	Retention count for the snapshots created by the fifth schedule.
enabled		boolean	Status of the snapshot policy indicating whether the policy will be enabled or disabled. If set to true, the policy will be enabled.
policy		string	The name of the snapshot scheduling policy which has to be created. Maximum length of this string can be 256 characters.
prefix1		string optional	Snapshot name prefix for the first schedule. Prefix name should be unique within the policy.
prefix2		string optional	Snapshot name prefix for the second schedule. Prefix name should be unique within the policy.
prefix3		string optional	Snapshot name prefix for the third schedule. Prefix name should be unique within the policy.
prefix4		string optional	Snapshot name prefix for the fourth schedule. Prefix name should be unique within the policy.

prefix5		string optional	Snapshot name prefix for the fifth schedule. Prefix name should be unique within the policy.
schedule1		string	First schedule to be added inside the policy. At least one schedule has to be added to create a policy.
schedule2		string optional	Second schedule to be added inside the policy.
schedule3		string optional	Third schedule to be added inside the policy.
schedule4		string optional	Fourth schedule to be added inside the policy.
schedule5		string optional	Fifth schedule to be added inside the policy.
snapmirror-label1		string optional	Label for SnapMirror Operations for first schedule. Maximum length of this field is 31 characters.
snapmirror-label2		string optional	Label for SnapMirror Operations for second schedule. Maximum length of this field is 31 characters.
snapmirror-label3		string optional	Label for SnapMirror Operations for third schedule. Maximum length of this field is 31 characters.
snapmirror-label4		string optional	Label for SnapMirror Operations for fourth schedule. Maximum length of this field is 31 characters.
snapmirror-label5		string optional	Label for SnapMirror Operations for fifth schedule. Maximum length of this field is 31 characters.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapshot-policy-delete

[top]

Delete the specified Snapshot Scheduling Policy

Input Name	Range	Type	Description
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapshot-policy-get

[top]

Get Information about a single Snapshot Policy

Input Name	Range	Type	Description
desired-attributes		snapshot-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.

Output Name	Range	Type	Description
attributes		snapshot-policy-info	The attributes of the snapshot.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapshot-policy-get-iter

[top]

Get Information about multiple Snapshot Policies

Input Name	Range	Type	Description
desired-attributes		snapshot-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snapshot-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapshot-policy-info[] optional	The list of attributes of snapshot objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapshot objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapshot-policy-modify

[top]

Enable or Disable the specified Snapshot Scheduling Policy

Input Name	Range	Type	Description
comment		string optional	A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters.
enabled		boolean optional	The state of the snapshot policy. If true, the snapshot policy is enabled and scheduled snapshots will be created on the volume associated with this policy.
policy		string	A human readable string describing the name of the snapshot scheduling policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapshot-policy-modify-schedule

[top]

Modify a snapshot policy

Input Name	Range	Type	Description
new-count	**[0..1023]**	integer optional	The new maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023.
new-snapmirror-label		string optional	The new SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. If an empty label is specified, the existing label will be deleted. The maximum length of this field is 31 characters
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.
schedule		string	A human readable string describing the name of a schedule whose retention count will be modified. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be user created schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

[top]

snapshot-policy-remove-schedule

Remove a snapshot schedule from policy

Input Name	Range	Type	Description
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.
schedule		string	A human readable string describing the name of a schedule which will be removed from the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be a user created schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

snapshot-reclaimable-info

[top]

Returns the amount of space that would be freed when a set of snapshots are deleted from a specified volume.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
snapshots		snapshot-name[]	List of snapshots. A maximum of 1023 snapshots can be listed.
volume		string	Name of the volume on which the snapshot reclaimable space info is to be collected.

Output Name	Range	Type	Description
reclaimable-size		integer	Size in bytes of space reclaimable if the snapshots were deleted. Range : [0 - 2^63-1].

Errno	Description
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTTOOMANY	
ESNAPSHOTCORRUPT	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EAGGRFAILINGOVER	

EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EHALTING	
EAPIMISSINGARGUMENT	
EONTAPI_ETIMEDOUT	

Vfiler-enabled
Yes

snapshot-rename

[top]

Rename a specified snapshot to a new name on a specified volume. This API is not supported on FlexGroups or Infinite Volume constituents.

Input Name	Range	Type	Description
current-name		string	Name of snapshot to be renamed.
new-name		string	New name of snapshot as a result of the rename.
volume		string	Name of the volume where the current snapshot and the new snapshot are located.

Errno	Description
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTEXISTS	
EVOLUME_TYPE_NOT_SUPPORTED	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
ESNAPSHOTACSLOCKED	
EAPIMISSINGARGUMENT	
EONTAPI_ETIMEDOUT	
ESNAPSHOTNOSPACE	
ESNAPDBNOTINITED	

Vfiler-enabled
Yes

snapshot-reserve-list-info

[top]

Gets the percentage of disk space that is reserved for snapshots in the indicated volume. If no volume

is specified, this will return the percentage of disk space reserved for snapshots for each of the volumes in the system. Reserve space can be used only by snapshots and not by the active file system. This API is deprecated in Data ONTAP Cluster-Mode 8.2 and later. Use volume-get-iter instead.

Input Name	Range	Type	Description
volume		string optional	Volume to get percentage of space reserved for snapshots.

Output Name	Range	Type	Description
snapshot-reserve-details		snapshot-reserve-detail-info[]	List of volumes along with their snapshot space reservation configuration.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EAGGRRELOCATING	

Vfiler-enabled
Yes

snapshot-restore-file

[top]

Restores a single file, LUN, or NVMe namespace from the specified snapshot. This operation can be executed to overwrite an existing version of the file, LUN, or NVMe namespace present in the active file system or create a new copy of the file, LUN, or NVMe namespace at a separate location within the same volume. Only normal files, LUNs, and NVMe namespaces are restored. Special files and directories (and their contents) are not restored. Starting Data ONTAP 9.0, restore operation is supported on file with streams. The file, LUN, or NVMe namespace is ready for read/write access once this API returns.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
ignore-streams		boolean optional	Use this option to control the behavior while restoring file with streams. If false, streams are restored along with the file. If true, the file is restored without its streams. The default value is false. This option is only supported on Data ONTAP 9.0 and later.
path		string	Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used.
restore-path		string optional	Path to restore to. The path must be a full path to a filename, and must be in the same volume as the volume used for the restore. If not specified, restore-path is defaulted to the original path.
snapshot		string	Name of snapshot to restore from. Snapshot must be from same volume as the file to restore.
snapshot-		string	A unique physical version identifier for a given snapshot within a volume

instance-uuid		optional	or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9
space-efficient-split-disabled		boolean optional	By default 'false', space-efficient LUN/NVMe namespace clone split is allowed during restore. This parameter, if set to 'true', disables space-efficient splitting for this specific operation.
volume		string optional	Volume to restore to/from. If this is passed in, the path argument should be relative to the volume.

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EONTAPI_EVOLOPNOTSUPP	
EINTERNALERROR	
EOBJECT_NOT_FOUND	
EVOLUMEDOESNOTEXIST	
EONTAPI_EBUSY	
EINVALIDINPUTERROR	
EVOLUMEBUSY	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EAPIMISSINGARGUMENT	
EVDISK_ERROR_7MODE_LUN	
EONTAPI_ENOMEM	
EVDISK_ERROR_TOO_MANY_LUNS	
EOP_DISALLOWED_VOL_IS_SYNC_SM	

Vfiler-enabled
Yes

snapshot-restore-file-info

[top]

Get information about snapshot file restores on a given vserver. Returns maximum snapshot file restores limit and snapshot file restores in progress numbers.

This API is not supported on FlexGroups.

Output Name	Range	Type	Description
max-sfsr-limit		integer	The maximum number of parallel single file snapshot restores (SFSR) allowed on a filer.
sfsr-in-progress		integer	Number of single file snapshot restores (SFSR) in progress on a filer.

Errno	Description
EVERSERVERNOTFOUND	
EVOLUMEBUSY	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled

Yes

snapshot-restore-volume

[top]

Reverts a volume to a specified snapshot. The volume must be online and must not be a mirror. If reverting the root volume, the filer will be rebooted. Non-root volumes do not require a reboot. A volume cannot have both a volume snaprestore and a single-file snaprestore executing simultaneously. Multiple single-file snaprestores can be in progress simultaneously. After the reversion, the volume is in the same state as it was when the snapshot was taken.

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
force		boolean optional	If this field is set to "true", the Snapshot copy is restored even if the volume has one or more newer Snapshot copies which are currently used as reference Snapshot copy by SnapMirror. If a restore is done in this situation, this will cause future SnapMirror transfers to fail. The SnapMirror relationship may be repaired using "snapmirror resync" command if a common Snapshot copy is found between the source and destination volume. If there is no common Snapshot copy between the source and the destination volume, a baseline SnapMirror copy would be required. The default value is false.
preserve-lun-ids		boolean optional	When this field is specified, LUNs in the volume being restored will remain mapped and their identities preserved such that host connectivity will not be disrupted during the restore operation. I/O's to the LUN will be fenced during the restore operation by placing the LUNs in an unavailable state. Once the restore operation has completed, hosts will be able to resume I/O access to the LUNs. The default value is false.
snapshot		string	Name of snapshot to restore from.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 84a010ec-3d28-11df-84e8-123478653412
volume		string	Name of volume to restore.

Errno	Description
EVOLUMEDOESNOTEXIST	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EONTAPI_EWORMVOLSLC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
ESNAPSHOTDOESNOTEXIST	

EOPNOTSUPPORTED	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EOP_DISALLOWED_DURING_TAKEOVER	
EAPIMISSINGARGUMENT	
ESNAPRESTORE_ONDEMAND_DEST	
ESNAPRESTORE_ONDEMAND_SOURCE	
EOP_DISALLOWED_VOL_IS_SYNC_SM	

Vfiler-enabled
Yes

snapshot-restore-volume-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Reverts an Infinite Volume to a specified snapshot. The Infinite Volume must be online and unmounted and must not be a mirror. After the reversion, the Infinite Volume is in the same state as it was when the snapshot was taken.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

Input Name	Range	Type	Description
snapshot		string	Name of snapshot to restore from.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 84a010ec-3d28-11df-84e8-123478653412
volume		string	Name of Infinite Volume to restore.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EVOLUMEDOESNOTEXIST	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EONTAPI_EWORMVOLSLC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	

ESNAPSHOTDOESNOTEXIST	
EOPNOTSUPPORTED	
EVOLUME_TYPE_NOT_SUPPORTED	
ESNAPRESTORE_ONDEMAND_DEST	
ESNAPRESTORE_ONDEMAND_SOURCE	

snapshot-set-reserve

[top]

Sets the size of the indicated volume's snapshot reserve to the specified percentage. Reserve space can be used only by snapshots and not by the active file system.

Input Name	Range	Type	Description
percentage		integer	Percentage to set. Range [0-100].
volume		string	Name of volume on which to set the snapshot space reserve.

Errno	Description
EVOLUMEDOESNOTEXIST	
EINVALIDINPUTERROR	
EVOLUMECREATING	
EVOLUMENOTONLINE	
EVOLUMEBUSY	
EONTAPI_ENOSPC	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-set-schedule

[top]

Set the snapshot schedule on a specified volume. If number of snapshots requested is greater than ONTAP allows, then ESNAPTOOMANY will be returned with the maximum allow snapshots in the reason.

Input Name	Range	Type	Description
days		integer optional	Number of snapshots taken daily to keep on line. If not provided, the number of daily snapshots is left at the previous value.
hours		integer optional	Number of snapshots taken hourly to keep on line. If not provided, the number of weekly snapshots is left at the previous value.
minutes		integer optional	Number of snapshots taken minutely to keep on line. If not provided, the number of minutely snapshots is left at the previous value.
volume		string	Name of the volume name where the snapshots are located.

weeks		integer optional	Number of snapshots taken weekly to keep on line. If not provided, the number of weekly snapshots is left at the previous value.
which-hours		string optional	Comma-separated list of the hours at which the hourly snapshots are created. If hours is 0, which-hours is ignored and cleared.
which-minutes		string optional	Comma-separated list of the minutes at which the minutely snapshots are created. If minutes is 0, which-minutes is ignored and cleared.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTTOOMANY	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-volume-info

[top]

Returns snapshot related volume information. The information returned is valid at the time the API call reached the filer and maybe outdated soon after.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
volume		string	Name of the volume on which the space needs to be checked.

Output Name	Range	Type	Description
size-available		integer	Total bytes that when exhausted will disable us from taking snapshots. If this value is 0, snapshots cannot be taken. Any other value would allow us to take a reliable snapshot. This space may or may not get exhausted by taking a snapshot. Also it may get used by writes/allocations in the volume. This is not equal to the free space in the active file system or anyway related to the size of the next snapshot. Range : [0..2^64-1].

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
E_VOLUME_INACCESSIBLE	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	

Vfiler-enabled

Yes

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

Element definition: **snapshot-autodelete-info**

[top]

Option name and value.

Name	Range	Type	Description
option-name		string	Option key. Possible values: "state" (value: "on" | "off") "commitment" (value: "try" | "disrupt") "trigger" (value: "volume" | "snap_reserve" | "(DEPRECATED)-space_reserve") "target_free_space" (value: <number>) "delete_order" (value: newest_first | oldest_first) "defer_delete" (value: scheduled | user_created | prefix | none) "destroy_list" (value: <user-defined>) "prefix" (value: <string>)
option-value		string	Option value.

Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

Name	Range	Type	Description
access-time		integer optional	The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1].
afs-used	**[0..2^64-**	integer	Size of the active filesystem at the time the snapshot was taken in

	1]	optional	bytes.
busy		boolean optional	Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances: If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot. If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot. If above conditions don't hold, then snapshot is not locked and can be deleted.
comment		string optional	A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes.
compress-savings	**[0..2^64-1]**	integer optional	Savings due to compression at the time the snapshot was taken in bytes.
compression-type		string optional	The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values: • 'none' ... There was no compression enabled on the volume • 'secondary' ... Secondary compression was enabled on the volume • 'adaptive' ... Adaptive compression was enabled on the volume
contains-lun-clones		boolean optional	This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified.
convert-recovery		boolean optional	Snapshot copy was created during a volume conversion operation.
cumulative-percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes.
cumulative-percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes.
cumulative-total		integer optional	Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted.
dedup-savings	**[0..2^64-1]**	integer optional	Savings due to dedup at the time the snapshot was taken in bytes.
dependency		string	Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes. Possible values include: • "acs" • "backup"

		optional	• "dump" • "file_clone" • "LUNs" • "snaplock" • "snapmirror" • "snapvault" • "vclone" • "snap restore"
expiry-time	**[0..2^32-1]**	integer optional	Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes.
infinite-snaplock-expiry-time		boolean optional	Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value.
inofile-version		integer optional	The inofile-version of the snapshot.
is-7-mode-snapshot		boolean optional	True if the snapshot is a 7-mode snapshot.
is-constituent-snapshot		boolean optional	True if the snapshot is a constituent snapshot.
logical-used	**[0..2^64-1]**	integer optional	Snapshot logical size at the time the snapshot was taken in bytes.
name		string optional	Name of the snapshot to be listed.
percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume.
percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume.
performance-metadata	**[0..2^64-1]**	integer optional	Amount of space in use for performance optimization at the time the snapshot was taken, in bytes.
reserved-size	**[0..2^64-1]**	integer optional	Reserved (holes and overwrites) at the time the snapshot was taken in bytes.
snap-state		boolean optional	State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise.
snaplock-expiry-time	**[0..2^64-1]**	integer optional	SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time.
snapmirror-label		string optional	A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout.
snapshot-owners-list		snapshot-owner[] optional	The list of owners of a busy snapshot.
snapshot-		UUID	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data

version-uuid		optional	layout.
state		string optional	The state of the snapshot. Possible values: • 'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally. • 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume. • 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation. Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial. The default value is valid.
total		integer optional	Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted.
vbn0-savings	**[0..2^64-1]**	integer optional	Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes.
volume		string optional	Volume name.
volume-provenance-uuid		UUID optional	Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID.
vserver		string optional	Name of the vserver to which this volume belongs.

Element definition: **snapshot-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against snapshot object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
snapshot-key		snapshot-info	The keys for the snapshot object to which the modify operation applies.

Element definition: **snapshot-multirename-error**

[top]

Information of the error details for snapshot multirename operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
error-number	**[0..2^32-1]**	integer optional	Error code due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable
error-reason		string optional	Error reason due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable
volume-name		string optional	Volume name on which snapshot rename failed. Attributes: non-creatable, non-modifiable

Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **snapshot-policy-info**

[top]

A typedef containing information about the Snapshot Scheduling Policies. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	A human readable description associated with the snasphot policy. The maximum length of this field can be 255 characters. Attributes: optional-for-create, modifiable
		boolean	The state of the snapshot policy. If true, the snapshot policy is enabled

enabled		optional	and scheduled snapshots will be created on the volume associated with this policy. Attributes: required-for-create, modifiable
policy		snapshot-policy optional	A human readable string describing the name of the snapshot scheduling policy. Attributes: key, required-for-create, non-modifiable
policy-owner		string optional	Owner of the policy Attributes: non-creatable, non-modifiable
snapshot-policy-schedules		snapshot-schedule-info[] optional	Information about individual snapshot schedules. To obtain information about invocation times for individual schedules, use API 'job-schedule-get'.
total-schedules	**[0..5]**	integer optional	Total Number of Schedules in this Policy Attributes: non-creatable, non-modifiable
vserver-name		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **snapshot-reserve-detail-info**

[top]

Information about a volume's snapshot space reservation configuration.

Name	Range	Type	Description
percentage		integer	Percentage of volume reserved for snapshots. Range : [0 - 100].
size		integer	Size in bytes of volume reserved for snapshots. Range : [0 - 2^64-1].
volume		string	Name of volume.
vserver		string optional	Name of the vserver to which this volume belongs. This field is returned only when request is sent to Admin Vserver LIF.

Element definition: **volume-error**

[top]

The error code of a given volume.

Name	Range	Type	Description
errno		integer optional	The error code of the snapshot operation for a given volume. It is returned only when an error is found.
name		volume-name	Name of a volume.
reason		string optional	Description of the error. It is returned only when an error is found.
vserver		string optional	Virtual server containing the volume.

Element definition: **volume-is-snapcreated**

[top]

The status of the snapshot creation for a given volume.

Name	Range	Type	Description
is-snapcreated		boolean	TRUE means a snapshot has been created for the volume.
name		volume-name	Name of a volume.

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

Name	Range	Type	Description
access-time		integer optional	The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1].
afs-used	**[0..2^64-1]**	integer optional	Size of the active filesystem at the time the snapshot was taken in bytes.
			Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances:

busy		boolean optional	If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot. If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot. If above conditions don't hold, then snapshot is not locked and can be deleted.
comment		string optional	A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes.
compress-savings	**[0..2^64-1]**	integer optional	Savings due to compression at the time the snapshot was taken in bytes.
compression-type		string optional	The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values: • 'none' ... There was no compression enabled on the volume • 'secondary' ... Secondary compression was enabled on the volume • 'adaptive' ... Adaptive compression was enabled on the volume
contains-lun-clones		boolean optional	This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified.
convert-recovery		boolean optional	Snapshot copy was created during a volume conversion operation.
cumulative-percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes.
cumulative-percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes.
cumulative-total		integer optional	Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted.
dedup-savings	**[0..2^64-1]**	integer optional	Savings due to dedup at the time the snapshot was taken in bytes.
dependency		string optional	Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes. Possible values include: • "acs" • "backup" • "dump" • "file_clone" • "LUNs"

			• "snaplock" • "snapmirror" • "snapvault" • "vclone" • "snap restore"
expiry-time	**[0..2^32-1]**	integer optional	Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes.
infinite-snaplock-expiry-time		boolean optional	Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value.
inofile-version		integer optional	The inofile-version of the snapshot.
is-7-mode-snapshot		boolean optional	True if the snapshot is a 7-mode snapshot.
is-constituent-snapshot		boolean optional	True if the snapshot is a constituent snapshot.
logical-used	**[0..2^64-1]**	integer optional	Snapshot logical size at the time the snapshot was taken in bytes.
name		string optional	Name of the snapshot to be listed.
percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume.
percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume.
performance-metadata	**[0..2^64-1]**	integer optional	Amount of space in use for performance optimization at the time the snapshot was taken, in bytes.
reserved-size	**[0..2^64-1]**	integer optional	Reserved (holes and overwrites) at the time the snapshot was taken in bytes.
snap-state		boolean optional	State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise.
snaplock-expiry-time	**[0..2^64-1]**	integer optional	SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time.
snapmirror-label		string optional	A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout.
snapshot-owners-list		snapshot-owner[] optional	The list of owners of a busy snapshot.
snapshot-version-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data layout.
			The state of the snapshot. Possible values:

state		string optional	'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally. • 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume. • 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation. Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial. The default value is valid.
total		integer optional	Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted.
vbn0-savings	**[0..2^64-1]**	integer optional	Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes.
volume		string optional	Volume name.
volume-provenance-uuid		UUID optional	Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID.
vserver		string optional	Name of the vserver to which this volume belongs.

Element definition: **snapshot-owner**

[top]

owner of a busy snapshot

Name	Range	Type	Description
owner		string	Name of the owner of a busy snapshot

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **snapshot-schedule-info**

[top]

Information about individual snapshot schedules

Name	Range	Type	Description
count	**[0..2^32-1]**	integer optional	Maximum number of snapshots to retain for the schedule present in the snapshot policy. Attributes: non-creatable, non-modifiable
prefix		string optional	Snapshot name prefix for the schedule present in the snapshot policy. Prefix will be used in the snapshot name instead of the schedule name. If prefix is not provided, schedule name will be used in the snapshot name. For eg, if the prefix name 'hourly-even' is assigned to the schedule name 'hourly' then the snapshot name will look like 'hourly-even.2010-05-10_0205'. If no prefix is associated with the schedule 'hourly' then prefix will be set to 'hourly' as the default value. Attributes: non-creatable, non-modifiable
schedule		string optional	A human readable string describing the name of a schedule present in the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly','daily' or it can be a user created schedule. Attributes: non-creatable, non-modifiable
snapmirror-label		string optional	Snapshot SnapMirror Label for the schedule present in the snapshot policy. The value specified will be added as an attribute to the snapshot created by the schedule. The maximum length of this field is 31 characters Attributes: non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

APIs in Category: **snapvault**

snapvault-add-softlock
snapvault-get-all-softlocked-snapshots
snapvault-get-softlocks
snapvault-primary-abort-snapshot-create
snapvault-primary-abort-transfer
snapvault-primary-delete-snapshot-schedule
snapvault-primary-destinations-list-info
snapvault-primary-get-relationship-status
snapvault-primary-initiate-incremental-restore-transfer
snapvault-primary-initiate-restore-transfer
snapvault-primary-initiate-snapshot-create
snapvault-primary-relationship-status-list-iter-end
snapvault-primary-relationship-status-list-iter-next
snapvault-primary-relationship-status-list-iter-start
snapvault-primary-release-relationship
snapvault-primary-set-snapshot-schedule
snapvault-primary-snapshot-schedule-list-info
snapvault-primary-snapshot-schedule-status-list-info
snapvault-remove-softlock
snapvault-secondary-abort-snapshot-create
snapvault-secondary-abort-transfer
snapvault-secondary-configuration-list-info
snapvault-secondary-create-relationship
snapvault-secondary-delete-relationship

SnapVault functionality within Data ONTAP provides disk-to-disk remote backup, archival and recovery. Note that the value expected for volume-name is only the volume name string. The path arguments used in these APIs are of the form: /vol/<volume>/<qtree>.

snapvault-secondary-delete-snapshot-schedule
snapvault-secondary-destinations-list-info
snapvault-secondary-get-configuration
snapvault-secondary-get-relationship-status
snapvault-secondary-initiate-incremental-transfer
snapvault-secondary-initiate-snapshot-create
snapvault-secondary-modify-configuration
snapvault-secondary-relationship-status-list-iter-end
snapvault-secondary-relationship-status-list-iter-next
snapvault-secondary-relationship-status-list-iter-start
snapvault-secondary-release-relationship
snapvault-secondary-resync-relationship
snapvault-secondary-set-snapshot-schedule
snapvault-secondary-snapshot-schedule-list-info
snapvault-secondary-snapshot-schedule-status-list-info

snapvault-add-softlock

[top]

Request the system to add softlock for the specified snapshot. Softlocks can be added to preserve the snapshots which user wants to retain down the cascade.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot to be softlocked.
softlock-name		string optional	Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock will be added with default name. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long.
volume		string	Name of the volume where the snapshot exists.

Errno	Description
ESNAPVAULTERR	

snapvault-get-all-softlocked-snapshots

[top]

List all snapshots which are softlocked for snapvault by external means.

Input Name	Range	Type	Description
volume		string	Name of the volume for which softlocked snapshots to be listed.

Output Name	Range	Type	Description
snapshot-list		snapshot-name[] optional	List of snapshots which are softlocked by external means.

Errno	Description
ESNAPVAULTERR	

snapvault-get-softlocks

[top]

List all snapvault softlocks on the given snapshot which are locked by external means.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot for which softlocks to be listed.
volume		string	Name of the volume where the snapshot exists.

Output Name	Range	Type	Description
snapvault-softlocks		snapvault-softlock-info	snapvault softlock information for the snapshot.

Errno	Description
EAPIMISSINGARGUMENT	

snapvault-primary-abort-snapshot-create

[top]

Request the primary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

Input Name	Range	Type	Description
schedule-name		string	Name of the schedule used for snapshot creation.
volume-name		string	Primary volume in which snapshot create is in progress.

Errno	Description
ESNAPVAULTERR	

Errno	Description
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-abort-transfer

[top]

Request the primary system to abort an active transfer. The abort can be hard abort, which means the transfer will not be restartable. Or it could be a soft abort, which will not clean the restart checkpoints. In that case the transfer may be restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

Input Name	Range	Type	Description
is-hard-abort		boolean optional	When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'.
system-path		string	The system path which is the target of transfer.
target-system		string optional	The system filer which is the target of transfer.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-delete-snapshot-schedule

[top]

Request the primary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and if specified the schedule name, will be deleted.

Input Name	Range	Type	Description
schedule-name		string optional	Name of the schedule to be deleted.

volume-name		string	The primary volume for which the schedules are to be deleted.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-destinations-list-info

[top]

Request the primary to list all snapvault destinations that have been replicated from any source path on this primary system. If a source path is provided, then the primary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

Input Name	Range	Type	Description
source-path		string optional	Source path on this primary for which the destination information is desired.

Output Name	Range	Type	Description
destinations		snapvault-destination-info[]	List of all snapvault destinations known to this primary.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-get-relationship-status

[top]

Request the primary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are

licensed on the same filer, output of this API is identical to the output of snapvault-secondary-get-relationship-status

Input Name	Range	Type	Description
system-path		string	System path for relationships whose status is desired.

Output Name	Range	Type	Description
status		snapvault-status-info[]	Status entries for desired relationships.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-initiate-incremental-restore-transfer

[top]

Request to initiate an incremental restore from a given secondary path to an existing primary path, using the specified secondary snapshot. The request will only initiate the restore and return. The actual restore operation will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship- status API should be used to determine progress of the restore operation. If the dataset contains LUNs, the restore will attempt to prevent disruptions to clients using those LUNs. Upon success, the primary path will have the exact same contents as the specified secondary path in the specified secondary snapshot.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
max-transfer-rate		integer optional	
no-lun-clone-		boolean	This option dictates how a lun clone would be transferred from source to destination. If this option is "flase", a LUN clone would be transferred as a

expansion		optional	LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".
primary-path		string	The pre-existing primary path to which data is being restored.
secondary-path		string	The secondary path to restore from.
secondary-snapshot		string optional	Name of the secondary snapshot to be used for this restore transfer.
secondary-system		string	The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-initiate-restore-transfer

[top]

Request the primary system to begin a baseline restore transfer from the given secondary path to the given primary path. If the primary path does not already exist, it will be created before starting the restore transfer. If it already exists, its contents will be overwritten by the restore transfer if overwrite-existing-content is set to true else an error is returned. If an existing primary path contains LUNs, then under certain conditions, restore will prevent disruptions to clients using those LUNs. The request will only start the restore transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship-status API should be used to check the status of the restore.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
			The maximum transfer rate in kilobytes (1024 bytes) per second to be

max-transfer-rate		integer optional	applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1..2^31-2]
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".
overwrite-existing-content		boolean optional	This option specifies to overwrite an existing primary qtree or not. If specified primary qtree path already exists and the option is set to "true" the existing qtree will be overwritten and and previous data will be lost. If specified primary qtree path already exists and the option is set to "false" then an error is returned. The default value of the option is "true".
primary-path		string	The primary path to which data is being restored. The primary path will be created during the restore if it doesn't already exist.
secondary-path		string	The secondary path to restore from.
secondary-snapshot		string optional	Name of the secondary snapshot to be used for this restore transfer. If this option is not provided, the secondary system will choose the snapshot that contains the most recent back-up for this secondary path.
secondary-system		string	The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-initiate-snapshot-create

[top]

Request the primary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the snapshot prefix. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-primary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

Input Name	Range	Type	Description
options		snapvault-snapcreate-options optional	Describes options for snap create request.
schedule-			The name of the schedule to be used for this snapshot

name		string	creation.
volume-name		string	The primary volume for which the snapshot schedule was configured.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-primary-relationship-status-list-iter-start API. The primary will clean up any saved info for this iteration.

Input Name	Range	Type	Description
tag		string	Tag from the previous primary-relationship-status-list-iter-start.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-relationship-status-list-iter-next

[top]

Request the primary to continue the iteration set up with the snapvault-primary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-relationship-status-list-iter-next

Input Name	Range	Type	Description

maximum		integer	The maximum number of entries to retrieve. Range:[0..2^32-1]
tag		string	Tag from a previous primary-relationship-status-list-iter-start.

Output Name	Range	Type	Description
records		integer	The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1]
status-list		snapvault-status-info[] optional	List of entries, each representing status entry for a relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-relationship-status-list-iter-start

[top]

Request the primary to start an iteration through the list of the status entries for all relationships.

Output Name	Range	Type	Description
records		integer	This tells you the number of items that have been saved for future retrieval with primary-relationship-status-list-iter-next. Range:[0..2^32-1]
tag		string	Tag to be used in subsequent iterations.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-release-relationship

[top]

Request the release of a snapvault relationship formed by a "create-relationship" or "resync-relationship" operation. This operation deletes the registry entry and the softlocks on the source snapshot.

Input Name	Range	Type	Description
primary-path		string	The primary path for the relationship.
secondary-path		string	The secondary path for the relationship.
secondary-system		string	The secondary system for the relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-set-snapshot-schedule

[top]

Request the primary system to configure the specified snapshot schedule. It can also update existing snapshot schedules. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

Input Name	Range	Type	Description
snapshot-schedule		snapvault-primary-snapshot-schedule-info	Specifies details of the schedule to be set.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-snapshot-schedule-list-info

[top]

Request the primary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the primary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-secondary-snapshot-schedule-list-info and this API return the same number of schedules.

Input Name	Range	Type	Description
volume-name		string optional	The primary volume for which the list of snapshot schedules are desired.

Output Name	Range	Type	Description
snapshot-schedules		snapvault-primary-snapshot-schedule-info[] optional	List of snapshot schedule entries.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-snapshot-schedule-status-list-info

[top]

Request the primary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-snapshot-schedule-status-list-info

Input Name	Range	Type	Description
volume-name		string optional	Primary volume for which snapshot schedule status is desired.

Output Name	Range	Type	Description
snapshot-schedule-status		snapvault-snapshot-schedule-status-info[]	List of status entries, one for each snapshot schedule.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	

ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-remove-softlock

[top]

request the system to remove softlock for the given snapshot.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot for which softlock to be removed.
softlock-name		string optional	Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock with default name will be removed. When softlock-name has value "-all", all softlocks on the snapshot will be removed. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long.
volume		string	Name of the volume where the snapshot exists.

Errno	Description
ESNAPVAULTERR	

snapvault-secondary-abort-snapshot-create

[top]

Request the secondary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

Input Name	Range	Type	Description
schedule-name		string	The name of the schedule used by the snapshot creation.
volume-name		string	The secondary volume in which snapshot create is in progress.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-abort-transfer

[top]

Request the secondary system to abort the current transfer. The abort can be hard abort, which means the transfer will not be restartable. By default, a soft abort is used, which means the transfer is restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

Input Name	Range	Type	Description
is-hard-abort		boolean optional	When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'.
system-path		string	The system path which is the target of update.
target-system		string optional	The system filer which is the target of transfer.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-configuration-list-info

[top]

Request to return a list of all configuration entries found on the secondary system.

Output Name	Range	Type	Description
configurations		snapvault-configuration-info[] optional	List of configuration entries.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License

snapvault_server

snapvault-secondary-create-relationship

[top]

Request the secondary system to configure a new snapvault relationship with the given primary and secondary systems and paths. This API is equivalent to the 'snapvault start' Data ONTAP command. All the inputs provided with this request will be stored in the configuration entry maintained by the secondary system. These values will be used as default settings for further incremental update transfers for this relationship. The snapvault-secondary-modify-configuration API can be used to change these configured settings. A successful configuration will automatically be followed by a baseline transfer from the primary to the secondary. The secondary path will be created during the baseline transfer hence it is required that the secondary path must not exist when issuing this request. This request will only begin the baseline transfer and return. The transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-get-relationship-status API should be used to check the status of the transfer.

Input Name	Range	Type	Description
configuration		snapvault-configuration-info	Relationship configuration
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-delete-relationship

[top]

Request the secondary system to unconfigure and delete the relationship permanently. The secondary path will be deleted. But none of the snapshots that capture this secondary path will be deleted. This API corresponds to the 'snapvault stop' Data ONTAP command.

Input Name	Range	Type	Description
secondary-path		string	The secondary-path to be deleted. The path will be unconfigured and deleted.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-delete-snapshot-schedule

[top]

Request the secondary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and the snapshot prefix when specified, will be deleted.

Input Name	Range	Type	Description
delete-schedule-softlock		boolean optional	When set to 'true', snapvault will delete ACS softlock set by this schedule. The default value for this option is 'false'.
schedule-name		string optional	The name of the schedule to be deleted.
volume-name		string	The secondary volume for which the schedule is to be deleted.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-destinations-list-info

[top]

Request the secondary to list all snapvault destinations that have been replicated from any source path on this secondary system. If a source path is provided, then the secondary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

Input Name	Range	Type	Description
source-path		string optional	Source path on this secondary for which the destination information is desired.

Output Name	Range	Type	Description
destinations		snapvault-destination-info[]	List of all snapvault destinations known to this secondary.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-get-configuration

[top]

Request the secondary to return the configuration entry for a relationship. The relationship must be specified by providing the secondary path as input.

Input Name	Range	Type	Description
secondary-path		string	The secondary path for the relationship whose configuration entry is desired.

Output Name	Range	Type	Description
configuration		snapvault-configuration-info optional	A single configuration entry.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-get-relationship-status

[top]

Request the secondary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-get-relationship-status

Input Name	Range	Type	Description
system-path		string	System path for the relationships whose status is desired.

Output Name	Range	Type	Description
status		snapvault-status-info[]	Status entries for desired relationships.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-initiate-incremental-transfer

[top]

Request the snapvault secondary system to begin an incremental transfer to the given secondary path. This API is equivalent to the 'snapvault update' Data ONTAP command. It is required that this secondary path has already been configured as part of a snapvault relationship. The primary system and path configured in that relationship will be used as the source for this transfer. The request will only start the transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of the update.

Input Name	Range	Type	Description
max-transfer-rate		integer optional	The maximum transfer rate in kilobytes (1024 bytes) per second to be applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1.. 2^31-2]
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".
primary-snapshot		string optional	Name of the primary snapshot to be used for this update transfer. This option is supported for only primary systems. If this option is not provided, the primary system will create a new source snapshot for this transfer.
secondary-			The secondary path that will be used as the destination for this update

path		string	transfer. It is required that this secondary path is already a part of some configured snapvault relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-initiate-snapshot-create

[top]

Request the secondary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the schedule name. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-secondary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

Input Name	Range	Type	Description
lock-backing-snapshot		boolean optional	When set to 'true' any snapshots backing the LUN clones present in the snapshot being created will be locked down. As a result, the locked backing snapshots can't be deleted as long as the snapshot that is locking them exists. The default value for this option is 'false', which doesn't lock any backing snapshots.
options		snapvault-snapcreate-options optional	Describes options for snap create request.
schedule-name		string	The name of the schedule to be used for creating the snapshot. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule. If an empty string is provided, the snapshot creation process will be started, but a snapshot will not be created. This is useful to bring all the relationships of a secondary volume to a consistent state.
volume-name		string	The secondary volume in which the snapshot is to be created.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-modify-configuration

[top]

Request change in one or more configuration parameters of an existing snapvault relationship identified by the secondary path provided. Only the parameters that are specified as input will be changed for this configuration.

Input Name	Range	Type	Description
configuration		snapvault-configuration-info	Relationship configuration

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-secondary-relationship-status-list-iter-start API. The secondary will clean up any saved info for this iteration.

Input Name	Range	Type	Description
tag		string	Tag from the previous secondary-relationship-status-list-iter-start.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License

snapvault_server

snapvault-secondary-relationship-status-list-iter-next

[top]

Request the secondary to continue the iteration set up with the snapvault-secondary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-relationship-status-list-iter-next

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range:[0..2^32-1]
tag		string	Tag from a previous secondary-relationship-status-list-iter-start.

Output Name	Range	Type	Description
records		integer	The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1]
status-list		snapvault-status-info[] optional	List of entries, each representing status entry for a relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-relationship-status-list-iter-start

[top]

Request the secondary to start an iteration through the list of the status entries for all relationships. This list will also include entries for snapvault restores from this secondary.

Output Name	Range	Type	Description
records		integer	This tells you the number of items that have been saved for future retrieval with secondary-relationship-status-list-iter-next. Range: [0..2^32-1]
tag		string	Tag to be used in subsequent iterations.

Errno	Description

ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-release-relationship

[top]

Request the release of a snapvault relationship formed after a restore operation on the primary system. This operation deletes the registry entry and removes the softlock on the source base snapshot.

Input Name	Range	Type	Description
primary-path		string	The primary path that had been used for the restore.
primary-system		string	The primary system which had performed the restore.
secondary-path		string	The secondary path that was used as source for restore.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-resync-relationship

[top]

Request to resynchronize the relationship for an existing secondary path. This API is equivalent to the 'snapvault start -r' Data ONTAP command. In addition the configuration entry for this relationship will be updated with any parameters that are provided as input. Finally an update transfer to this secondary path will be started. The resynchronization is commonly used when the primary dataset has been migrated to a different location for e.g. via snapvault restore. This functionality is also required if the secondary path was made writable for e.g. via wafl iron. This request will only start the resync process and return. The process will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of this restore.

Input Name	Range	Type	Description

configuration		snapvault-configuration-info	Relationship configuration
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-set-snapshot-schedule

[top]

Request the secondary system to configure the specified snapshot schedule. If this request is made for an existing snapshot schedule, then that snapshot schedule is updated with any new values specified. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

Input Name	Range	Type	Description
snapshot-schedule		snapvault-secondary-snapshot-schedule-info	Specifies details of the schedule to be set.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-snapshot-schedule-list-info

[top]

Request the secondary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the secondary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-primary-snapshot-schedule-list-info and this API return the same number of schedules.

Input Name	Range	Type	Description
volume-name		string optional	The secondary volume for which the list of snapshot schedules are desired.

Output Name	Range	Type	Description
snapshot-schedules		snapvault-secondary-snapshot-schedule-info[] optional	List of snapshot schedule entries.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-snapshot-schedule-status-list-info

[top]

Request the secondary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. This API corresponds to the 'snapvault status -s' Data ONTAP command. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-snapshot-schedule-status-list-info

Input Name	Range	Type	Description
volume-name		string optional	Secondary volume for which snapshot schedule status is desired.

Output Name	Range	Type	Description
snapshot-schedule-status		snapvault-snapshot-schedule-status-info[]	List of status entries, one for each snapshot schedule.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

Element definition: **snapvault-configuration-info**

[top]

Describes the elements of the snapvault configuration entry.

Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of primary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
is-access-time-change-ignored		boolean optional	Sets the ignore_atime option in snapvault configuration entry. When set to 'true', snapvault primary does not send files with only access time changes during incremental transfers. The default value is 'false'
is-open-file-backup-allowed		boolean optional	Sets the back_up_open_files option in the snapvault configuration entry. This option is used to allow or disallow the inclusion of open files on the primary system at the time of the transfer. This option is currently applicable only for OSSV relationships. When set to 'false' the OSSV primary agents will exclude files that are open from the transfer. The default value for this parameter is 'true'.
is-primary-path-utf8-encoded		boolean optional	Specifies encoding format for the primary pathname. A 'true' value indicates that the primary pathname is in UTF8 format. The default encoding format is ASCII/extended ASCII. The default value is 'false'.
max-transfer-rate		integer optional	The maximum transfer rate in kilobytes (1024 bytes) per second that will be used for this relationship as well as baseline transfer. The default value for this parameter will allow transfers to proceed as fast as possible. Range:[1..2^31-2]
			The primary path that will be used as the source for this relationship as well as for baseline transfer. This can be either in UTF8 or

primary-path		string	ASCII/extended ASCII depending on whether or not 'is-primary-path-utf8-encoded' flag is set. If option 'is-primary-path-utf8-encoded' is not specified, then the primary-path considered as in ASCII/extended ASCII.
primary-system		string	The primary system for this relationship as well as for the baseline transfer. This input will be used by the secondary system to establish contact with the primary. Therefore this input is expected to be a hostname that the primary can resolve.
secondary-path		string	The secondary path that will be used as destination for this relationship as well as baseline transfer. The secondary path will be created during the baseline transfer and hence it must not exist when issuing this request.
tries-count		integer optional	The maximum number of times a transfer will be tried. Transfers that are retried using this mechanism may be capable of restarting from where the previous attempt failed. If a transfer does not succeed even after those many attempts, then the secondary will give up. All the data that was transferred during previous tries for this transfer will be discarded. The default value for this parameter is 2. When set to 0, the relationship will become dormant. In other words no transfers will be allowed to this secondary path. The maximum value accepted for this input is 120. Range:[0..120]
use-compression		string optional	Specifies whether to compress the network data stream. Possible values are 'on', 'off', and 'default'. When the value is set to 'on', stream compression will be enabled. When the value is set to 'off', stream compression will be disabled. When the value is set to 'default' then the default value will be used. In case of snapvault create relationship API, when this option is not specified, the default value will be used. In case of snapvault modify API, when this option is not specified, the last configured value for this relationship will be used. The default value for this option is the value of global compression option.

Element definition: **snapvault-destination-info**

[top]

Structure of each entry of destinations list.

Name	Range	Type	Description
chained-destinations		snapvault-chained-destination-info[]	List of destinations that form a dependency chain starting from the source-path. This list will contain only one element for non-cascaded configurations. The last element of this list represents the destination for which the snapshot returned in source-snapshot has been preserved on the source system.
source-path		string	The source path for this destination.
source-snapshot		string	The source snapshot that has been preserved on the source system for the destination.

Element definition: **snapvault-primary-snapshot-schedule-info**

[top]

Structure of each snapshot schedule.

Name	Range	Type	Description

is-auto-update		boolean optional	Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot. Default value is 'false'. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules.
options		snapvault-schedule-options optional	Describes snapvault schedule options.
preserve-snapshots		string optional	Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules.
retention-count		integer	Denotes the maximum number of most recent snapshots that will be retained by this schedule. Range:[0..254]
schedule		snapvault-schedule-info optional	Describes the actual schedule.
schedule-name		string	Uniquely identifies this schedule within a primary volume. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule.
volume-name		string	The primary volume for which this schedule has been configured.
warn-at-count		integer optional	On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. Range:[0..retention-count - 1]

Element definition: **snapvault-secondary-snapshot-schedule-info**

[top]

Snapshot schedules for each volume.

Name	Range	Type	Description
is-auto-update		boolean	Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot.
options		snapvault-schedule-options optional	Describes schedule options.
preserve-snapshots		string optional	Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules.
retention-		integer	Denotes the maximum number of most recent snapshots that will be

count			retained by this schedule. Range:[0..254]
schedule		snapvault-schedule-info optional	Describes the actual schedule.
schedule-name		string	Uniquely identifies the schedule within a secondary volume. The schedule-name is used as a prefix in the name of each snapshot created by this schedule.
volume-name		string	The secondary volume for which these schedules have been configured.
warn-at-count		integer optional	On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. Range:[0..retention-count - 1]

Element definition: **snapvault-snapcreate-options**

[top]

Snap create options.

Name	Range	Type	Description
tries-count		integer	This option is similar to one in snapvault-schedule-options. Range:[-1..120]

Element definition: **snapvault-snapshot-schedule-status-info**

[top]

Structure of the snapshot schedule status entry.

Name	Range	Type	Description
schedule-name		string	Uniquely identifies schedule within a volume.
status		string	Status of this schedule. Possible values are: "Idle", "Active", "Aborting", "Queued", "Saving".
volume-name		string	Volume for which this schedule is configured.

Element definition: **snapvault-softlock-info**

[top]

Structure of the snapvault softlock.

Name	Range	Type	Description
softlock-name		string	Name of the softlock. This field will be empty if softlock-name is not specified while adding softlock.
type		string	Type of snapvault softlock. This indicates whether the softlock added using zapi or command line interface. Possible types are "cli", "api"

Element definition: **snapvault-status-info**

[top]

Format of each status entry.

Name	Range	Type	Description
base-snapshot		string optional	Snapshot the relationship is currently based upon.
compressed-bytes		integer optional	Number of compressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1]
contents		string optional	State of the active file system of the snapvault path on this system. Possible values are: "replica", "transitioning" and "original". This field is present only on the destination.
current-transfer-error		string optional	A human readable error string for the current transfer.
current-transfer-type		string optional	Type of the current transfer. Possible values are: "initialize", "update", "retry", "resync". Only available for active transfers.
destination-path		string	Destination path.
destination-system		string	Destination hostname.
inodes-replicated	**[0..2^64-1]**	integer optional	Shows the number of inodes replicated. Present during directory processing phase.
lag-time		integer optional	Amount of time in seconds since the beginning of the most recently successful transfer from source. This field is present only when there has been a successful baseline transfer. Range: [1..2^32-1]
last-transfer-duration		integer optional	Duration of last transfer in seconds. Range:[0..2^32-1]
last-transfer-from-path		string optional	Source path used for the last transfer.
last-transfer-from-system		string optional	Source system used for the last transfer.
last-transfer-size		integer optional	Size in kilobytes (1024 bytes) of the last transfer. Range: [0..2^32-1]
last-transfer-type		string optional	Last transfer type. Possible values are: "initialize", "update", "retry", "resync".
mirror-timestamp		integer optional	Creation time of the snapshot used for the most recent successful transfer. Specified in seconds since Jan 1, 1970. This field is present only when there has been a successful baseline transfer. Range:[1..2^32-1]
replication-ops	**[0..2^64-1]**	integer optional	Counter that is incremented for every replication operation. Present during directory processing phase.
source-path		string	Source path.
source-system		string	Source hostname.
state		string	State of this relationship. Possible values are: "uninitialized","snapvaulted","broken-off","unknown", "source","restoring","quiesced".
status		string	Transfer status for this relationship. Possible values are: "idle", "transferring", "pending", "aborting", "quiescing", "resyncing", "restoring".
			Number of kilobytes (1024 bytes) transferred so far. This field is

transfer-progress		integer optional	valid only for active transfers. If there is no active transfer in progress, this field is absent. Range:[0..2^32-1]
uncompressed-bytes		integer optional	Number of uncompressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1]

Element definition: **snapvault-chained-destination-info**

[top]

Structure of each entry of destinations-chain.

Name	Range	Type	Description
destination-path		string	Destination path.
destination-system		string optional	Hostname of the destination system.

Element definition: **snapvault-schedule-info**

[top]

Representation of the scheduling information.

Name	Range	Type	Description
days-of-week		string optional	Days of the week for which this schedule has been set. This is a comma separated list of days, where a day is specified by the first three letters of the day. Day ranges are also allowed. Here are the possible formats: • - := matches no day of the week • mon := matches Monday • tue,thu := matches Tuesday and Thursday • mon-fri := matches mon,tue,wed,thu,fri Default value is mon-sun, i.e. every day.
hours-of-day		string optional	Hours of the day for which this schedule has been set. This is a comma separated list of the hours during the day where hours are specified as integers from 0 to 23. Hour ranges are also allowed. Step values are allowed in conjunction with ranges. Here are the possible formats: • 4 := matches 4 am. • 0,13 := matches midnight and 1pm. • 0-23 := matches all hours • 0-8/2 := matches 'every 2 hours' starting from midnight until 8am. Default value is 0, i.e. midnight.

Element definition: **snapvault-schedule-options**

[top]

Describes snapvault schedule options.

Name	Range	Type	Description

retention-period		string optional	This option is used to specify a retention period for snapshots, which are created by this schedule, for SnapLock volumes. The retention period is specified as a count followed by a suffix. the valid suffixes are d - for days m - for months y - for years For example a value of 6m represents a retention period of 6 months. THe maximum valid retention period is 30 years, or the maximum retention period set for the volume, whichever is shorter. The minimum valid retention period is 0 days, ir the minimum retention period set for the volume, whichever is longer. If the option value is default or the retention-period option is not specified, the snapshots will be created with retention period equal to the default retention period of the secondary SnapLock volume, or 30 years, whichever is shorter.
tries-count		integer optional	Number of times SnapVault should try creating each scheduled snapshot before giving up. If the snapshot creation fails due to transient errors such as the volume being out of space, SnapVault will keep trying to create the snapshot every minute untill the request is fulfilled. The allowed range is from 0 to 120. The default value is unlimited. If tries-count is not use, then the value will remain unchanged and the already configured value will be used. The default value for this option is -1. Range:[-1..120]

APIs in Category: **snmp**

snmp-community-add
snmp-community-delete
snmp-community-delete-all
snmp-disable
snmp-enable
snmp-enable-snmpv3
snmp-get
snmp-get-next
snmp-status
snmp-test-trap-trigger
snmp-trap-disable
snmp-trap-enable
snmp-traphost-add
snmp-traphost-delete

A note on snmp-community-* ZAPI:

The snmp-community-* ZAPI must be executed on the Cluster LIF. Vserver tunneling must be used to add/delete an SNMP community for a Vserver. If Vserver tunneling is not used while executing these ZAPI, then it will default to Cserver.

snmp-community-add

[top]

Adds a community to the list of communities.

Input Name	Range	Type	Description
access-control		string	Access control for the community. The only supported value is "ro" (read-only).
community		string	Community name to be added.

Errno	Description
EONTAPI_EINVAL	
E_COMMUNITY_CREATE_FAILED	

snmp-community-delete

[top]

Deletes a community from the list of communities.

Input Name	Range	Type	Description
access-control		string	Access control for the community.The only supported value is "ro" (read-only).
community		string	Community name to be deleted.

Errno	Description
EONTAPI_EINVAL	

snmp-community-delete-all

[top]

Deletes all the communities.

Errno	Description
EONTAPI_EINVAL	

snmp-disable

[top]

Disables snmp protocol.

snmp-enable

[top]

Enables snmp protocol.

snmp-enable-snmpv3

[top]

Enable SNMPv3 cluster-wide

Errno	Description
EINTERNALERROR	
E_FIPS_USERS_AND_TRAPHOSTS_DELETE_FAILED	
E_ENABLE_SNMPV3_DISABLED	

snmp-get

[top]

Retrieves the value of a snmp object.

Input Name	Range	Type	Description
object-id		string	Fully qualified object identifier of a snmp object. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed.

Output Name	Range	Type	Description
			If true, the string returned in 'value' is the hexadecimal representation

is-value-hexadecimal		boolean optional	of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string.
value		string	Value of the snmp object specified through the input argument "object-id".

Errno	Description
EONTAPI_EINVAL	

snmp-get-next

[top]

This is used to retrieve the next OID in the mib tree of data. Instead of returning the data you requested, it returns the next OID in the tree and its value. Unlike the snmp-get api, this api does return data for a OID which is too short or is missing the index part of the OID.

Input Name	Range	Type	Description
object-id		string	Object Identifier of a snmp object. The OID can be a fully qualified OID or a partial OID. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed.

Output Name	Range	Type	Description
is-value-hexadecimal		boolean optional	If true, the string returned in 'value' is the hexadecimal representation of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string.
next-object-id		string	Object Identifier of the next snmp object in the mib.
value		string	Value of the snmp object reported through the output argument "next-object-id".

Errno	Description
EONTAPI_EINVAL	

snmp-status

[top]

Returns configuration information of the SNMP agent daemon.

Output Name	Range	Type	Description
communities		community-info[] optional	Returns a list of communities and their access control settings.
contact		string	Contact name.
is-trap-enabled		boolean	Retuns "true" if traps are enabled. "false" otherwise.
location		string	Location name.
traphosts		traphost-info[] optional	Returns a list of registered trap hosts followed by their IP addresses. Only resolvable trap hosts are returned. If a host name cannot be found in /etc/hosts for a previously registered IP address, its name defaults to a string representation of its IP address.

snmp-test-trap-trigger

[top]

Trigger SNMP test trap

Errno	Description
EINTERNALERROR	

snmp-trap-disable

[top]

Disables snmp traps.

snmp-trap-enable

[top]

Enables snmp traps.

snmp-traphost-add

[top]

Adds a host to the list of trap hosts.

Input Name	Range	Type	Description
host		string	Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address.
username		string optional	Specify the USM user name to indicate SNMPv3 traphost. USM user must have already been defined before adding a SNMPv3 traphost.

Errno	Description
EONTAPI_EINVAL	
E_TRAPHOST_CREATE_FAILED	

snmp-traphost-delete

[top]

Deletes a host from the list of trap hosts.

Input Name	Range	Type	Description
host		string	Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address.
username		string optional	Specify the USM user name to indicate SNMPv3 traphost.

Errno	Description
EONTAPI_EINVAL	

Element definition: **community-info**

[top]

Information about a single community.

Name	Range	Type	Description
access-control		string	Access control of the community.The only supported value is "ro" (read-only).
community		string	Community name.

Element definition: **traphost-info**

[top]

Information about a single registered trap host.

Name	Range	Type	Description
host-name		string	Name of the trap host given by the user. Can be one of the following: hostname, ip-address, or alias Hostname will be a fully qualified Domain Name.
ip-address		string	IP address of the trap host.

APIs in Category: **storage-acp-firmware**

storage-acp-firmware-file-get-iter	This is an auto generated category.

storage-acp-firmware-file-get-iter

[top]

return the firmware file list

Input Name	Range	Type	Description
desired-attributes		storage-acp-firmware-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-acp-firmware-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-acp-firmware-file[] optional	The list of attributes of storage-acp-firmware objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-acp-firmware objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-acp-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
filename		string optional	Storage Firmware File Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **storage-adapter**

storage-adapter-enable-adapter
storage-adapter-get-adapter-info
storage-adapter-get-adapter-list

storage-adapter-enable-adapter

[top]

Enables specified host adapter. I/O traffic can be issued on the adapter.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also present, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
ENODENOTFOUND	

storage-adapter-get-adapter-info

[top]

Display the information about a specified host adapter. The information is displayed base on the controller interface type. ATA, Parallel SCSI, SAS, FC.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b".
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on.

Output Name	Range	Type	Description
adapter-details		adapter-detail-info[]	List of detail info for given adapter.

storage-adapter-get-adapter-list

[top]

Get the list of adapters present on this system.

Input Name	Range	Type	Description
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on.

Output Name	Range	Type	Description
adapter-list		adapter-name-elem[]	The adapter-list is a list of the names of adapters on this system. These adapter names can be used by other commands, including storage-adapter-enable-adapter and storage-adapter-disable-adapter.

Element definition: **adapter-detail-info**

[top]

Detailed information for specific adapter. Display different info base on the type of adapter.

Name	Range	Type	Description
adapter-fc		adapter-fc-info optional	Information for fc (Fibre Channel) adapter.
adapter-name		string	Adapter port name, which is adapter slot number and, if presented, the port letter designator together. Examples are 8a, 11b. Note that a physical adapter may contain multiple ports.
adapter-parallel-scsi		adapter-parallel-scsi-info optional	Information for parallel SCSI adapter.
adapter-sas		adapter-sas-info optional	Information for sas (serial attached SCSI) adapter.
adapter-type		string	Type of adapter present in the system. Possible values: "ADT_IF_ATA", "ADT_IF_PARALLEL_SCSI", "ADT_IF_SAS", "ADT_IF_FC".
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.

Element definition: **adapter-name-elem**

[top]

A list of adapter-names that can be used in other storage-adapter interface calls.

Name	Range	Type	Description
adapter-name		string	The adapter name is the slot number and, if present, the port letter designate. Examples are 8a, 11b

node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.

Element definition: **adapter-fc-info**

[top]

Detailed information for fc adapter.

Name	Range	Type	Description
adapter-bar		adapter-bar-info[] optional	List of base address information
adapter-model		string	Model of the adapter.
adapter-sff-info		adapter-sff-info optional	If the port has a small form factor transceiver/connector (also known as sff), then this is the vendor information on the sff.
adapter-sfp-info		adapter-sfp-info optional	If the port has a small form factor pluggable transceiver/connector (also known as sfp), then this is the vendor information on the sfp.
cache-line-sz	**[0..2^8-1]**	integer optional	Storage port adapter's data cache size,
fc-link-rate	**[0..2^16-1]**	integer	Link rate of Fibre Channel port.
fc-node-name		string	Fibre Channel node name.
fc-packet-size	**[0..2^32-1]**	integer	Size of Fibre Channel packets.
fc-port-name		string optional	Fibre Channel World Wide Port Name (WWPN) of adapter.
firmware-rev		string	Firmware revision of adapter.
hardware-rev		string	Hardware revision of adapter.
host-loop-id	**[0..125]**	integer optional	Storage port adapter's Fibre Channel loop id,
host-port-id	**[0..125]**	integer optional	Storage port adapter's port id,
is-enabled		boolean	Is the adapter enabled? true or false.
is-ext-gbic		boolean	Is the Fibre Channel gbic external? true or false.
is-in-use		boolean	Is the adapter inuse? true or false
is-pci-64-capable		boolean optional	Is the adapter pci-64-capable? true or false.
is-redundant		boolean	Is the adapter used in dual-attached config? true or false
is-sram-parity		boolean optional	Is the adapter sram parity configured and enabled? true or false.
preload-table-rev		string optional	Preload table revision of adapter.

Element definition: **adapter-parallel-scsi-info**

[top]

Detailed information for parallel SCSI adapter.

Name	Range	Type	Description
adapter-model		string	Model of the adapter.
bus-width		string	Possible values: "narrow", or "wide".
firmware-rev		string	Firmware revision of adapter.
hardware-rev		string	Hardware revision of adapter.
is-enabled		boolean	Is the adapter enabled?

Element definition: **adapter-sas-info**

[top]

Detailed information for sas (Serial Attached SCSI) adapter.

Name	Range	Type	Description
adapter-board-revision		string optional	Adapter board revision as assigned by the manufacturer. Will be missing if data not available or not supported.
adapter-date-code		string optional	Adapter data code assigned by the manufacturer. Will be missing if data not available or not supported.
adapter-family		string optional	Adapter family as assigned by the vendor. Example: 2432. Will be missing if data not available or not supported.
adapter-manufacturer		string optional	Manufacturing facility where adapter was built. Will be missing if data not available or not supported.
adapter-manufacturer-part-number		string optional	Adapter part number assigned by the manufacturer. Will be missing if data not available or not supported.
adapter-model		string	Model of the adapter. This is the same as adapter-vendor followed with adapter-family. Example: "Qlogic 2432"
adapter-part-number		string optional	Adapter part number assigned by the vendor. Will be missing if data not available or not supported.
adapter-serial-number		string optional	Adapter serial number. If the serial number is missing, a) It could be an internal connection , i.e. platforms with an embedded shelf b) The cable serial number can't be read or has a mal-formed serial number, part number. If the serial number is missing, but disks are present, a connection is present.
adapter-slot	**[0..20]**	integer	Slot number for the adapter port.
adapter-state		string	Current state of the adapter. Possible values: "up", "down", "offline_soft", "offline_hard", "offline_loopback".
adapter-vendor		string optional	Represents the adapter vendor. Example: Qlogic. Will be missing if data not available or not supported.
base-wwn		string	Physical base node world-wide name
firmware-rev		string	Firmware revision of adapter
hardware-rev		string	This is the hardware chip revision of adapter.
is-enabled		boolean	Is the adapter enabled?
is-in-use		boolean	Is adapter in use? true or false.
is-redundant		boolean	Is adapter dual-attached? true or false.

sas-adapter-disabled-phy-count	**[0..4]**	integer optional	Number of disabled PHYs on the host adapter.
sas-adapter-enabled-phy-count	**[0..4]**	integer optional	Number of enabled PHYs on the host adapter.
sas-adapter-expander-phy-states		sas-adapter-expander-phy-state-info[] optional	List of expander PHYs, a SAS adapter transceivers, state info. It will be missing if data is not available or if no expander is connected to the adapter.
sas-phy		phy-state-info[] optional	List of adapter PHY state info.
sas-qsfp-cable		sas-qsfp-cable-info optional	QSFP information of the cable. QSFP is acronym for Quad Small Form-factor Pluggable.. Will be missing if data not available or not or cable not present supported.

Element definition: **adapter-bar-info**

[top]

display base address information

Name	Range	Type	Description
bar-base		integer	Base address occupied by the storage port adapter. Range : [0..2^32-1]
bar-size		integer	Address range occupied by the storage port adapter. Range : [0..2^32-1]
bar-type		string	Type of base address information. Possible values are: "I/O", and "memory mapped I/O".

Element definition: **adapter-sff-info**

[top]

Information on small form factor transceiver/connector (also known as sff).

Name	Range	Type	Description
part-number		string	Vendor's part number for the sff. If data not available, value will be "not_available".
serial-number		string	Serial number for sff. If data not available, value will be "not_available".
speed-capabilities		string	Comma separated list of speed capabilities of the sff. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available".
vendor		string	sff vendor name. If data not available, value will be "not_available".

Element definition: **adapter-sfp-info**

[top]

Information on small form factor pluggable transceiver/connector (also known as sfp).

Name	Range	Type	Description
part-number		string	Vendor's part number for the sfp. If data not available, value will be "not_available".
serial-number		string	Serial number for sfp. If data not available, value will be "not_available".
speed-capabilities		string optional	Comma separated list of speed capabilities of the sfp. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available".
vendor		string	sfp vendor name If data not available, value will be "not_available".

Element definition: **phy-state-info**

[top]

Adapter PHY state information.

Name	Range	Type	Description
phy	**[0..3]**	integer	A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link.
phy-state		string	Adapter PHY state info. Possible values: "sas_phy_state_enabled_rate_unknown", "sas_phy_state_disabled", "sas_phy_state_speed_neg_failed", "sas_phy_state_SATA_OOB_failed", "sas_phy_state_enabled_15gbs", "sas_phy_state_enabled_30gbs", "sas_phy_state_enabled_60gbs", "sas_phy_state_enabled_120gbs", "unknown".
phy-wwn		string optional	Adapter PHY's world-wide name.

Element definition: **sas-adapter-expander-phy-state-info**

[top]

Adapter PHY and list of connected expander PHYs.

Name	Range	Type	Description
adapter-phy	**[0..3]**	integer	Adapter PHY connected to a list of expander PHYs.
expander-phy-states		expander-phy-state-info[]	List of all expanders connected to an adapter's PHY.

Element definition: **sas-qsfp-cable-info**

[top]

QSPF Cable information.

Name	Range	Type	Description
			Serial number of the attached cable as assigned by the cable

attached-serial-number		string optional	manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends.
cable-end-identifier		string optional	Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1".
cable-length		string optional	Length of the cable. Will be missing if data not available or not present.
cable-manufacturer		string optional	Manufacturer of the cable. Will be missing if data not available or not present.
cable-part-number		string optional	Cable part number as assigned by the manufacturer. Will be missing if data not available or not present.
cable-serial-number		string optional	This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-number. For the actual serial number see attached-serial-number. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device.
cable-technology		string optional	Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "active_copper", "passive_copper", "copper", "optical".

Element definition: **expander-phy-state-info**

[top]

Expander PHY state information.

Name	Range	Type	Description
expander-phy	**[0..70]**	integer	A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link.
expander-phy-attached-device-type		string	Device type attached to an adapter PHY. Possible values: • "initiator" - A device type that can initiate a SAS communication, • "expander" - A device type that facilitates communication between multiple SAS devices, • "sas_end_device" - A SAS device that is not contained within an expander device, • "sata_end_device" - A SATA end device, • "unknown" - An unknown device type.
			Expander PHY state info. Possible values: • "sas_phy_state_enabled_rate_unknown" - PHY is enabled but data transfer rate is unknown, • "sas_phy_state_disabled" - PHY is disabled, • "sas_phy_state_speed_neg_failed" - Data tranfer rate negotiation failed, • "sas_phy_state_sata_oob_failed" - SATA OOB(Out Of

expander-phy-state		string	Band) signaling failed, • "sas_phy_state_enabled_15gbs" - 1.5 Gb/s data transfer rate, • "sas_phy_state_enabled_30gbs" - 3.0 Gb/s data transfer rate, • "sas_phy_state_enabled_60gbs" - 6.0 Gb/s data transfer rate, • "sas_phy_state_enabled_120gbs" - 12.0 Gb/s data transfer rate, • "unknown" - Unknown PHY state.
expander-phy-wwn		string	Expander PHY's world-wide name.

APIs in Category: **storage-array**

storage-array-get-config-summary
storage-array-list-info
storage-array-modify
storage-array-port-modify
storage-array-ports-list-info
storage-array-rename

Storage arrays are external units that supply storage to NetApp systems. These APIs allow us to define, manipulate and map the storage arrays to the services they provide.

storage-array-get-config-summary

[top]

Generates a high level summary of array LUN pathing (connectivity) information.

Input Name	Range	Type	Description
node		string optional	Obtain array LUN pathing information for a specified node.
ownership-type		string optional	Option that allows the user to select which array LUNs are displayed. Valid values for ownership-type are 'assigned', 'unassigned' and 'all'. If ownership-type is set to 'assigned' only assigned array LUNs are displayed. If ownership-type is set to 'unassigned' only unassigned array LUNs are displayed. If ownership-type is set to 'all', all array LUNs are displayed. Default: 'all'.

Output Name	Range	Type	Description
config-summary		storage-array-config-summary[] optional	A summary of array LUN connectivity for each attached array.

Errno	Description
EINTERNALERROR	

storage-array-list-info

[top]

Retrieves a list of all array profiles known to the controller.

Input Name	Range	Type	Description
array-name		string optional	When specified, only the named array profile record will be returned. (28 chars)

Output Name	Range	Type	Description
array-profiles		storage-array-profile[]	A list of arrays (and their details)

Errno	Description
EINTERNALERROR	
EARRAYNOTFOUND	

storage-array-modify

[top]

Update an array profile with new or changed information.

Input Name	Range	Type	Description
all-path-fail-delay		integer optional	The time delay (in secs) to hold IO during All Path Failure Event.
array-name		string	The name of the array profile to update. (28 chars max)
is-upgrade-pending		boolean optional	Used to indicate that the specified array will under go an upgrade in the near future.
lun-queue-depth		integer optional	The queue depth assigned to array LUNs from this array.
max-queue-depth		integer optional	The target port queue depth for all target ports on this array.
model		string optional	The model of the array. (16 chars max)
options		string optional	Array profile specific options. (comma separated list of name/value pairs) (127 chars max)
path-failover-time		integer optional	The time delay (in secs) before switching the I/O path when the path is deleted.
prefix		string optional	A short label used to refer to this array. (7 chars max)
vendor		string optional	The name of the array's manufacturer. (8 chars max)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

storage-array-port-modify

[top]

Update an array port with new or changed information.

Input Name	Range	Type	Description
array-name		string	The name of the array profile to update. (28 chars max)
max-queue-depth		integer optional	The target port queue depth for this target port.

target-iqn		string optional	Target IQN.
tpgt		string optional	TPGT
utilization-policy		utilizationpolicytypes optional	The policy used while sending I/O to an array target port when it reaches queue depth.
wwnn		string optional	World wide node name of array's target port (64 chars).
wwpn		string optional	World wide port name of array's target port (64 chars).

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

storage-array-ports-list-info

[top]

generate a list of online array ports and their associated arrays

Input Name	Range	Type	Description
array-name		string optional	When supplied, only port records for the named array are returned. (28 chars)

Output Name	Range	Type	Description
array-ports		storage-array-port[] optional	A list of all array ports, or just the ports for the named array

Errno	Description
EINTERNALERROR	
EARRAYNOTFOUND	

storage-array-rename

[top]

Rename an array profile

Input Name	Range	Type	Description
array-name		string	The name of the array profile to update. (28 chars max)
new-name		string	The new name to assign to this array profile. (28 chars max)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	

EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **storage-array-config-summary**

[top]

A summary of array LUN connectivity for each attached array.

Name	Range	Type	Description
array-name		string	The name assigned to the array this group of array LUNs is exported from. 28 character string, no spaces.
chassis-serial-number		string	The serial number assigned to the array.
device-type		string optional	Type of LUN device. Describes the type of lun device or tape library. Possible Values are: • "array_lun" - Array LUN type • "tape_mc" - Tape Drive or Media Changer/library type • "unknown" - Unknown device type
group-number		integer	A unique number associated with a set of array LUNs that share the exact same pathing/connectivity information. Range: [0..65535]
initiator-port		string	Initiator port name, e.g. 0a.
lun-count		integer	The number of array LUNs assigned to this group. Range: [0..65535]
switch-port		string	Name of switch port connected to the HBA (controller's initiator port), or UNKNOWN if direct attached.
target-iqn		string	World wide port name of array's target port (224 chars).
target-side-switch-port		string	Name of switch port connected to target array, or UNKNOWN if direct attached.
target-wwpn		string	World wide port name of array's target port (64 chars).

Element definition: **storage-array-port**

[top]

Maps array definition to target port

Name	Range	Type	Description
array-id		integer	Primary key (system defined) for the array record. Range: [0..2^64-1]
array-name		string	Name of the array in the array record. (28 char max)
connection-type		string optional	Describes the type of connection between the controller and the back end storage. Possible values are: • "direct" - Direct Attached • "fabric" - Fabric Attached
max-queue-depth		integer optional	The target port queue depth for this target port. Range: [0..2048]

port-stat-info		storage-array-port-stats[] optional	Contains statistics about each array port.
switch-port		string optional	For fabric attached connections, the switch port the array target port is connected to. N/A for direct attached.
target-iqn		string	The IQN of the iSCSI target.
target-port-speed		string optional	The speed that the target port has negotiated with its connected switch port, or initiator port if direct attached.
tpgt		integer	The target portal group of the array. Range: [0..2^16-1]
utilization-policy		string optional	Describes the behavior of Data ONTAP when an array target port reaches its queue depth and is being forced to wait before sending additional I/O. Possible values are: • "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default) • "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts.
wwnn		string	World wide node name of array's target port (64 chars).
wwpn		string	World wide port name of array's target port (64 chars).

Element definition: **storage-array-profile**

[top]

data describing characteristics/parameters of/about a storage array

Name	Range	Type	Description
affinity		string	Describes the affinity model supported by the array. Possible values are: • "none" - None • "aaa" - Active/Active Asymmettric • "ap" - Active/Passive • "mixed" - This array is presenting different affinity models to different controllers within the cluster.
all-path-fail-delay		integer	Extend All Path Failure Event (secs). Range: [0|30..90]
array-id		integer	primary key (system defined) for the array record. Range: [0..2^64-1]
errors		storage-array-error-info[] optional	A list of all errors for the requested array.
firmware		string	The firmware revision of the array. (64 chars max)
is-upgrade-pending		boolean	The is-upgrade-pending status for the array.
lun-queue-depth		integer	The default queue depths assigned to array LUNs from this array. Range: [3..32]
max-queue-depth		integer	The target port queue depth for all target ports on this array. Range: [8..2048]

model		string	The model name of the array. (16 chars max)
name		string	A unique node-level user supplied name for the array. (28 char max)
network-address		string	IP address/node name of the array's SNMP management port. (1024 char max)
optimization-policy		string	Describes the I/O optimization policy used by this array. Possible values are: • "ialua" - The array supports iALUA. • "ealua" - The array supports eALUA. • "symmetric" - All ports on the array will be treated equally. • "proprietary" - A vendor specific optimization is supported for this array. • "mixed" - This array supports multiple optimization policies, one per node. • "unknown" - No known optimization method is supported for this array (will be treated as if Symmetric)
options		string	A comma separated list of name value pairs of array specific settings. (128 chars max)
path-failover-time		integer	Path Failover Timeout (sec). Range: [0..32]
port-failover-type		string	The pathing failover supported by the array, either ACTIVE-ACTIVE or ACTIVE-PASSIVE.
prefix		string	A unique character code used to refer to this array. (7 chars max)
serial-number		string	The serial number of the array. (17 char max)
vendor		string	The name of the array's vendor, e.g. NetApp. (8 chars max)

Element definition: **utilizationpolicytypes**

[top]

normal|defer Possible values:

- "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default),
- "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts.

[none]

Element definition: **storage-array-error-info**

[top]

Contains error messages associated with array.

Name	Range	Type	Description
error-id		integer	A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1]
error-			

text		string	A description of the error being reported.
error-type		string	Enum describing type of error. ARRAY_INCONSISTENT_LUN_ADDRESSING_METHOD - 1. Array is using inconsistent LUN addressing schemes. ARRAY_DEVTYPE_ERROR - 2. Array has encountered a device class error. ARRAY_PATH_HIGH_ERROR - 3. Array has exceeded an error rate threshold on a given path. ARRAY_NON_OPTIMIZED_TP - 4. Array is experiencing service times greater than the threshold on the given target port. ARRAY_EXCESSIVE_TP_LATENCY - 5. Array is experiencing latency times greater than the threshold on the given target port.

Element definition: **storage-array-port-stats**

[top]

Contains statistics about an array port.

Name	Range	Type	Description
average-dynamic-queue-depth		integer	The average value of the dynamic target port queue depth. Range: [0..2^32-1]
average-latency-per-iop		integer	The average latency for I/O operations performed by this controller on this target port. Range: [0..2^32-1]
average-pending		integer	An average over time of how many commands are on the outstanding queue. Range: [0..2^32-1]
average-waiting		integer	An average over time of how many commands are on the waiting queue. Range: [0..2^32-1]
dynamic-queue-depth		integer	Current dynamic target port queue depth, the maximum number of commands allowed outstanding. Range: [0..2^32-1]
initiator-port		string	Initiator port name, e.g. 0a.
max-pending		integer	The largest number of commands observed on the outstanding queue. Range: [0..2^32-1]
max-waiting		integer	The largest number of commands observed on the waiting queue. Range: [0..2^32-1]
node		string	Node name of array's target port.
path-link-errors		integer	Number of link errors reported on the path. Range: [0..2^32-1]
percent-busy		integer	The percentage of time I/Os are outstanding on the port. Range: [0..100]
percent-waiting		integer	The percentage of time there are I/Os waiting on the waiting queue on the target port. Range: [0..100]
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-lun-in-use-count		integer	Number of disks in the IN-USE state on this target port. Range: [0..2^64-1]

APIs in Category: **storage-bridge**

storage-bridge-config-dump-collect
storage-bridge-config-dump-delete
storage-bridge-config-dump-get-iter
storage-bridge-coredump-collect
storage-bridge-coredump-delete
storage-bridge-coredump-get-iter
storage-bridge-firmware-firmware-update
storage-bridge-get
storage-bridge-get-iter

These APIs enable the retrieval of values associated with system bridges that have been added for monitoring. These are read-only APIs and hence require pre-addition of the bridges to be used for monitoring before these can be used. A system bridge is identified by its name (set by the administrator and fetched over SNMP) and the information about the same is broadly categorized into following areas:

1. Profile Information: It includes information like bridge's WWN, model, vendor etc. 2. Cooling Information: It includes information about the bridge's temperature sensors. 3. Connectivity Information: It includes information about the paths to the bridge from nodes via switch. 4. Interface Information: It includes information about the bridge's ports, their statistics and Small Form-factor Pluggable (SFP) connectors. 5. Error Information: It includes information about the errors logged in the bridge.

storage-bridge-config-dump-collect

[top]

Retrieve the dumpconfiguration file from the bridge.

Input Name	Range	Type	Description
bridge		string	Bridge Name

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Job ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-config-dump-delete

[top]

Delete a saved dumpconfiguration file.

Input Name	Range	Type	Description
file		string	The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt.
node		node-name	The node where the dumpconfiguration file is located.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-config-dump-get-iter

[top]

Get a list of available bridge dumpconfiguration files.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-config-dump-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-bridge-config-dump-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-bridge-config-dump-info[] optional	The list of attributes of storage-bridge objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-bridge objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-bridge-coredump-collect

[top]

Collect the coredump file from the bridge.

Input Name	Range	Type	Description
name		string	Bridge Name

Output Name	Range	Type	Description

job-id	**[0..2^64-1]**	integer optional	Job ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-coredump-delete

[top]

Delete a saved coredump file

Input Name	Range	Type	Description
corename		string	Coredump Filename
name		string	Bridge Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-coredump-get-iter

[top]

Return a list of coredumps available.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-coredump-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-bridge-coredump-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge-coredump object. All storage-bridge-coredump objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-bridge-coredump-info[] optional	The list of attributes of storage-bridge-coredump objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-bridge-coredump objects to return.

num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-bridge-firmware-firmware-update

[top]

Download firmware to the specified bridge. The bridge needs to be rebooted for the firmware to be updated successfully.

Input Name	Range	Type	Description
bridge		string	The bridge to be updated.
force		boolean optional	Force a firmware download to the bridge.
skip		boolean optional	Skip checking for port path = 2.
uri		string	The URI location of the firmware file.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-get

[top]

Get the attributes of the storage-bridge.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	Name of the bridge.

Output Name	Range	Type	Description
attributes		storage-bridge-info	The attributes of the storage-bridge.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-get-iter

[top]

Iterate over a list of storage-bridge objects.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-bridge-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-bridge-info[] optional	The list of attributes of storage-bridge objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-bridge objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-bridge-config-dump-info**

[top]

System bridge config-dump file When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bridge		string optional	The Bridge name of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable
file		string optional	The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt. Attributes: key, non-creatable, non-modifiable
node		node-name optional	The node where the dumpconfiguration file is located. Attributes: key, non-creatable, non-modifiable
serial-number		string optional	Serial number of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable
timestamp		datetime optional	Time when the dumpconfiguration file was collected. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-coredump-info**

[top]

Information about a bridge coredump When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
corename		string optional	The name of the coredump file. The coredump filename has the following format: core....mem Attributes: key, non-creatable, non-modifiable
name		string optional	The Bridge name of the bridge that generated the coredump. Attributes: non-creatable, non-modifiable
node		filer-id optional	The node where the coredump file is located. Attributes: non-creatable, non-modifiable
panic-string		string optional	Panic string for the panic that generate the coredump. Attributes: non-creatable, non-modifiable
panic-time		datetime optional	Time when the panic occurred. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of the bridge that generated the coredump. Attributes: key, non-creatable, non-modifiable

Element definition: **storage-bridge-info**

[top]

Storage Bridge When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	IP Address of the bridge. Attributes: required-for-create, modifiable
chassis-throughput-status		storage-bridge-throughput-status optional	Chassis throughput status. Attributes: non-creatable, non-modifiable Possible values: • "normal" , • "warning"
dram-single-bit-error-count	**[0..2^32-1]**	integer optional	Number of DRAM single-bit errors since reboot. Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware version of the bridge. Attributes: non-creatable, non-modifiable
is-being-monitored		boolean optional	Is bridge being monitored under Fabric Health Monitor? Attributes: non-creatable, non-modifiable
is-bridge-secure		boolean optional	Is bridge secured? Attributes: non-creatable, non-modifiable
last-reboot-reason		string optional	Reason for last reboot. Attributes: non-creatable, non-modifiable
last-reboot-time		datetime optional	Last time bridge was rebooted. Attributes: non-creatable, non-modifiable
managed-by		storage-bridge-mgmt-method optional	Monitoring method used by the bridge. Attributes: required-for-create, modifiable Possible values: • "snmp" , • "in_band"
model		string optional	Model of the bridge. Attributes: non-creatable, non-modifiable
name		string optional	Name of the bridge. Attributes: key, required-for-create, non-modifiable
serial-number		string optional	Serial Number of the bridge. Attributes: non-creatable, non-modifiable
status		storage-device-status optional	Status of the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Device Status Unknown, • "ok" - Device Status Ok, • "error" - Device Status Erroneous
storage-bridge-connectivity-list		storage-bridge-connectivity-info[] optional	Information about the individual storage path to the bridge.
storage-bridge-cooling-info		storage-bridge-cooling-info optional	Information about the storage bridge cooling environment.
storage-bridge-error-list		storage-bridge-error-info[] optional	Information about the invidual error.
storage-bridge-fc-		storage-brige-fc-port-info[]	Information about the individual fibre channel

port-list		optional	port.
storage-bridge-fc-port-sfp-list		storage-bridge-fc-port-sfp-info[] optional	Information about the individual sfp.
storage-bridge-fc-port-statistics-list		storage-bridge-fc-port-statistics-info[] optional	Statistics information about the individual fibre channel port.
storage-bridge-mini-sas-hd-list		storage-bridge-mini-sas-hd-info[] optional	Information about the individual Mini-SAS HD.
storage-bridge-power-supply-list		storage-bridge-power-supply-info[] optional	Information about the bridge power supplies.
storage-bridge-sas-port-list		storage-bridge-sas-port-info[] optional	Information about the individual SAS port.
storage-bridge-sas-port-qsfp-list		storage-bridge-sas-port-qsfp-info[] optional	Information about the individual sfp.
storage-bridge-sas-port-statistics-list		storage-bridge-sas-port-statistics-info[] optional	Statistics information about the individual SAS port.
symbolic-name		string optional	If set, symbolic name of the bridge, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable
vendor		storage-bridge-vendor optional	Vendor of the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "atto"
wwn		string optional	World Wide Name of the bridge. Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-bridge-connectivity-info**

[top]

Information about the individual storage path to the bridge.

Name	Range	Type	Description
initiator-name		string optional	Name of the adapter in the node to which the bridge is connected. Attributes: non-creatable, non-modifiable
initiator-side-switch-port-id		string optional	WWN of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable
initiator-side-switch-port-name		string optional	Name of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable
node-name		node-name optional	Name of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable
node-uuid		uuid optional	UUID of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable
target-port-wwn		string optional	World wide name of the port in the bridge to which the node is connected. Attributes: non-creatable, non-modifiable
target-side-switch-port-id		string optional	WWN of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable
target-side-switch-port-name		string optional	Name of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-cooling-info**

[top]

Information about the storage bridge cooling environment.

Name	Range	Type	Description
maximum-safe-operating-temperature	**[0..2^32-1]**	integer optional	Maximum safe operating temperature (in degree cesius) reported by the sensor. Attributes: non-creatable, non-modifiable
minimum-safe-operating-temperature	**[-2^31..2^31-1]**	integer optional	Minimum safe operating temperature (in degree celsius) reported by the sensor. Attributes: non-creatable, non-modifiable

temperature-sensor-name		string optional	Name of the temperature sensor in the bridge. Attributes: non-creatable, non-modifiable
temperature-sensor-operational-status		storage-bridge-chassis-temp-status optional	Operational Status of the Temperature Sensor. Attributes: non-creatable, non-modifiable Possible values: • "normal" , • "warning" , • "critical"
temperature-sensor-reading	**[-2^31..2^31-1]**	integer optional	Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-error-info**

[top]

Information about the invidual error.

Name	Range	Type	Description
bridge-component-id	**[0..2^32-1]**	integer optional	SNMP identifier for the bridge component with error. Attributes: non-creatable, non-modifiable
bridge-component-name		string optional	Name of the bridge component with error. Attributes: non-creatable, non-modifiable
bridge-component-unique-id		string optional	Unique textual identifier for the bridge component with error. It refers to World Wide Name of the component if available, SNMP identifier otherwise. Attributes: non-creatable, non-modifiable
error-message		string optional	Text describing the error occurred in the bridge. Attributes: non-creatable, non-modifiable
error-type		storage-bridge-error-type optional	Type of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "bridge_unreachable" - Bridge is Unreachable over Management Network, • "temp_above_critical_level" - Bridge Temperature Above Critical Level, • "temp_below_critical_level" - Bridge Temperature Below Critical Level, • "temp_sensor_status_critical" - Temperature Sensor Status is Critical, • "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable, • "invalid_configuration" - Bridge FC Ports are not correctly configured, • "sas_port_offline" - Bridge SAS Port is Offline, • "link_failure" - Link to Bridge has Failed, • "fc_port_offline" - Bridge FC Port is Offline, • "sas_port_online" - Bridge SAS Port is Online, • "power_supply_offline" - Bridge Power Supply is Offline
severity		storage-bridge-error-	Severity of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Severity Unknown,

		severity optional	• "notice" - Notice, • "warning" - Warning, • "error" - Error

Element definition: **storage-bridge-fc-port-sfp-info**

[top]

Information about the individual sfp.

Name	Range	Type	Description
data-rate-capability		storage-bridge-fc-sfp-data-rate-capability optional	Data Rate capability of the small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "2gbps" - 2 gigabits/second., • "4gbps" - 4 gigabits/second., • "8gbps" - 8 gigabits/second., • "16gbps" - 16 gigabits/second., • "32gbps" - 32 gigabits/second.
fc-port-index	**[0..2^32-1]**	integer optional	Index of FC port. Attributes: non-creatable, non-modifiable
part-number		string optional	Part number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable
vendor		string optional	Vendor of the small form-factor pluggable. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-fc-port-statistics-info**

[top]

Statistics information about the individual fibre channel port.

Name	Range	Type	Description
index	**[0..2^32-1]**	integer optional	Index of FC port. Attributes: non-creatable, non-modifiable
invalid-crc-count	**[0..2^32-1]**	integer optional	Invalid CRC count for the FC port. Attributes: non-creatable, non-modifiable
invalid-primitive-count	**[0..2^32-1]**	integer optional	Bridge FC Port Error Primitive Count List Attributes: non-creatable, non-modifiable
invalid-txword-count	**[0..2^32-1]**	integer optional	Bridge FC Port Invalid TX Words List Attributes: non-creatable, non-modifiable
link-failures-count	**[0..2^32-1]**	integer optional	Link Failure count for the FC port. Attributes: non-creatable, non-modifiable
lip-count	**[0..2^32-1]**	integer optional	LIP count for the FC port. Attributes: non-creatable, non-modifiable
nos-count	**[0..2^32-1]**	integer optional	NOS count for the FC port. Attributes: non-creatable, non-modifiable
rx-words-count	**[0..2^32-**	integer	Number of words received by the FC port. Attributes: non-

	1]	optional	creatable, non-modifiable
signal-loss-count	**[0..2^32-1]**	integer optional	Signal Loss count for the FC port. Attributes: non-creatable, non-modifiable
sync-losses-count	**[0..2^32-1]**	integer optional	Sync Loss count for the FC port. Attributes: non-creatable, non-modifiable
time-since-reset	**[0..2^32-1]**	integer optional	Bridge FC Port Time Since Statistics Reset List Attributes: non-creatable, non-modifiable
tx-words-count	**[0..2^32-1]**	integer optional	Number of words transmitted by the FC port. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-mgmt-method**

[top]

SNMP|in-band Possible values:

- "snmp" ,
- "in_band"

[none]

Element definition: **storage-bridge-mini-sas-hd-info**

[top]

Information about the individual Mini-SAS HD.

Name	Range	Type	Description
mini-sas-hd-index-list	**[0..2^32-1]**	integer optional	Index of Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-part-number-list		string optional	Part number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-serial-number-list		string optional	Serial Number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-type-list		string optional	Type of the Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-vendor-list		string optional	Vendor of the Mini-SAS HD. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-power-supply-info**

[top]

Information about the bridge power supplies.

Name	Range	Type	Description
power-supply-index-list	**[0..2^32-1]**	integer optional	Bridge Power Supply Index List Attributes: non-creatable, non-modifiable
power-supply-name-list		string optional	Name of the bridge power supply. Attributes: non-creatable, non-modifiable
			Status of the bridge power supply. Attributes: non-

power-supply-status-list		storage-bridge-power-supply-status optional	creatable, non-modifiable Possible values: • "unknown" , • "down" , • "up"

Element definition: **storage-bridge-sas-port-info**

[top]

Information about the individual SAS port.

Name	Range	Type	Description
administrative-state		storage-bridge-sas-port-admin-state optional	Administrative state of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "disabled" , • "enabled"
data-rate-capability		storage-bridge-sas-port-data-rate-capability optional	Data Rate capability of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown data rate., • "1_5gbps" - 1.5 gigabits per second., • "3gbps" - 3 gigabits per second., • "6gbps" - 6 gigabits per second., • "12gbps" - 12 gigabits per second.
index	**[0..2^32-1]**	integer optional	Index of SAS port. Attributes: non-creatable, non-modifiable
negotiated-data-rate		storage-bridge-negotiated-sas-port-data-rate optional	Negotiated Data Rate of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown data rate., • "1_5gbps" - 1.5 gigabits., • "3gbps" - 3 gigabits., • "6gbps" - 6 gigabits., • "12gbps" - 12 gigabits.
operational-state		storage-bridge-sas-port-oper-state optional	Operational status of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline" , • "degraded"
phy1-operational-state		storage-bridge-sas-port-phy-oper-state optional	Operational state of 1st physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
			Operational state of 2nd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible

phy2-operational-state		storage-bridge-sas-port-phy-oper-state optional	values: • "unknown" , • "online" , • "offline"
phy3-operational-state		storage-bridge-sas-port-phy-oper-state optional	Operatinal state of 3rd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
phy4-operational-state		storage-bridge-sas-port-phy-oper-state optional	Operational state of 4th physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
sas-port-wwn		string optional	World Wide Name of the SAS port. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-sas-port-qsfp-info**

[top]

Information about the individual sfp.

Name	Range	Type	Description
part-number		string optional	Part Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable
qsfp-type		storage-bridge-qsfp-type optional	Type of quad small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown type., • "optical" - Optical quad small form factor pluggable., • "active_copper" - Active copper quad small form factor pluggable., • "passive_copper" - Passive copper quad small form factor pluggable.
sas-port-index	**[0..2^32-1]**	integer optional	Index of SAS port. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable
vendor		string optional	Vendor of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-sas-port-statistics-info**

[top]

Statistics information about the individual SAS port.

Name	Range	Type	Description
phy-disparity-count	**[0..2^32-1]**	integer optional	Disparity count for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-index	**[0..2^32-1]**	integer optional	Index of physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-invalid-crc-count	**[0..2^32-1]**	integer optional	Invalid CRC count for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-invalid-dword-count	**[0..2^32-1]**	integer optional	Invalid DWORD coung for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-link-changed-count	**[0..2^32-1]**	integer optional	Link changed count for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-reset-count	**[0..2^32-1]**	integer optional	physical link reset count. Attributes: non-creatable, non-modifiable
phy-sync-losses-count	**[0..2^32-1]**	integer optional	Sync Loss count for the physical link in SAS port. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-throughput-status**

[top]

normal|warning Possible values:

- "normal" ,
- "warning"

[none]

Element definition: **storage-bridge-vendor**

[top]

unknown|Atto Possible values:

- "unknown" ,
- "atto"

[none]

Element definition: **storage-brige-fc-port-info**

[top]

Information about the individual fibre channel port.

Name	Range	Type	Description
administrative-state		storage-bridge-fc-port-admin-state optional	Administrative status of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "disabled" ,

			"enabled"
configured-connection-mode		storage-bridge-configured-fc-port-connection-mode	Configured connection mode for the FC port. Attributes: non-creatable, non-modifiable Possible values: • "loop" - Arbitrated loop., • "ptp" - Point to point., • "loop_preferred" - Arbitrated loop preferred., • "ptp_preferred" - Point to point preferred.
configured-data-rate		storage-bridge-configured-fc-port-data-rate optional	Configured Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "auto" - auto, • "2gbps" - 2 gigabits/second., • "4gbps" - 4 gigabits/second., • "8gbps" - 8 gigabits/second., • "16gbps" - 16 gigabits/second.
data-rate-capability		storage-bridge-fc-port-data-rate-capability optional	Data Rate capability of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "2gbps" - 2 gigabits per second., • "4gbps" - 4 gigabits per second., • "8gbps" - 8 gigabits per second., • "16gbps" - 16 gigabits per second., • "32gbps" - 32 gigabits per second.
fc-port-wwn		string optional	World Wide Name of the FC port. Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Index of FC port. Attributes: non-creatable, non-modifiable
negotiated-data-rate		storage-bridge-negotiated-fc-port-data-rate optional	Negotiated Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "2gb" , • "4gb" , • "8gb" , • "16gb" , • "32gb"
operational-state		storage-bridge-fc-port-oper-state optional	Operational status of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
peer-port-name		string optional	FC port's peer port name. Attributes: non-creatable, non-modifiable

Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-bridge-chassis-temp-status**

[top]

normal|warning|critical Possible values:

- "normal" ,
- "warning" ,
- "critical"

[none]

Element definition: **storage-bridge-configured-fc-port-connection-mode**

[top]

loop|ptp|loop-preferred|ptp-preferred Possible values:

- "loop" - Arbitrated loop.,
- "ptp" - Point to point.,
- "loop_preferred" - Arbitrated loop preferred.,
- "ptp_preferred" - Point to point preferred.

[none]

Element definition: **storage-bridge-configured-fc-port-data-rate**

[top]

auto|2Gb|4Gb|8Gb|16Gb Possible values:

- "auto" - auto,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,

"16gbps" - 16 gigabits/second.

[none]

Element definition: **storage-bridge-error-severity** [top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

Element definition: **storage-bridge-error-type** [top]

unknown|bridge-unreachable|temp-above-critical-level|temp-below-critical-level|temp-sensor-status-critical|temp-sensor-status-unavailable|invalid-configuration|sas-port-offline|link-failure|sas-port-online|power-supply-offline Possible values:

- "unknown" - Unknown,
- "bridge_unreachable" - Bridge is Unreachable over Management Network,
- "temp_above_critical_level" - Bridge Temperature Above Critical Level,
- "temp_below_critical_level" - Bridge Temperature Below Critical Level,
- "temp_sensor_status_critical" - Temperature Sensor Status is Critical,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,
- "invalid_configuration" - Bridge FC Ports are not correctly configured,
- "sas_port_offline" - Bridge SAS Port is Offline,
- "link_failure" - Link to Bridge has Failed,
- "fc_port_offline" - Bridge FC Port is Offline,
- "sas_port_online" - Bridge SAS Port is Online,
- "power_supply_offline" - Bridge Power Supply is Offline

[none]

Element definition: **storage-bridge-fc-port-admin-state** [top]

unknown|disabled|enabled Possible values:

- "unknown" ,
- "disabled" ,
- "enabled"

[none]

Element definition: **storage-bridge-fc-port-data-rate-capability** [top]

2Gbps|4Gbps|8Gbps|16Gbps|32Gbps Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits per second.,
- "4gbps" - 4 gigabits per second.,
- "8gbps" - 8 gigabits per second.,
- "16gbps" - 16 gigabits per second.,
- "32gbps" - 32 gigabits per second.

[none]

Element definition: **storage-bridge-fc-port-oper-state** [top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

Element definition: **storage-bridge-fc-sfp-data-rate-capability** [top]

2Gb|4Gb|8Gb|16Gb|32Gb Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,
- "16gbps" - 16 gigabits/second.,
- "32gbps" - 32 gigabits/second.

[none]

Element definition: **storage-bridge-negotiated-fc-port-data-rate** [top]

unknown|2|4|8|16 Possible values:

- "unknown" ,
- "2gb" ,
- "4gb" ,
- "8gb" ,

- "16gb" ,
- "32gb"

[none]

Element definition: **storage-bridge-negotiated-sas-port-data-rate**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits.,
- "3gbps" - 3 gigabits.,
- "6gbps" - 6 gigabits.,
- "12gbps" - 12 gigabits.

[none]

Element definition: **storage-bridge-power-supply-status**

[top]

unknown|down|up Possible values:

- "unknown" ,
- "down" ,
- "up"

[none]

Element definition: **storage-bridge-qsfp-type**

[top]

unknown|optical|active-copper|passive-copper Possible values:

- "unknown" - Unknown type.,
- "optical" - Optical quad small form factor pluggable.,
- "active_copper" - Active copper quad small form factor pluggable.,
- "passive_copper" - Passive copper quad small form factor pluggable.

[none]

Element definition: **storage-bridge-sas-port-admin-state**

[top]

unknown|disabled|enabled Possible values:

- "unknown" ,

- "disabled" ,
- "enabled"

[none]

Element definition: **storage-bridge-sas-port-data-rate-capability**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits per second.,
- "3gbps" - 3 gigabits per second.,
- "6gbps" - 6 gigabits per second.,
- "12gbps" - 12 gigabits per second.

[none]

Element definition: **storage-bridge-sas-port-oper-state**

[top]

unknown|online|offline|degraded Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "degraded"

[none]

Element definition: **storage-bridge-sas-port-phy-oper-state**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **storage-disk**

storage-disk-fw-status
storage-disk-get-iter
storage-disk-set-foreign-lun

storage-disk-fw-status

[top]

Based on input, displays: The number of disks waiting for firmware update, Average firmware update duration per disk in seconds, Estimate for background firmware download completion in minutes, or Name of disk that cannot be updated.

Input Name	Range	Type	Description
status-type		string required	Possible values: 1. time-estimate 2. waiting-disks 3. average-time 4. pending-disks

Output Name	Range	Type	Description
fw-update-status		fw-update-status-info[]	Firmware Update status.

Errno	Description
EINTERNALERROR	

storage-disk-get-iter

[top]

Disk enumeration ZAPI. Get disk information about one or more disks, from the Storage Subsystem. Clustered ONTAP iterator APIs support filtering of output, to constrain the disks that are included in the return list, and/or what information is returned about each disk. The default is to return all information about all disks in the cluster. That list may be reduced using the 'query' input element. For example, the return list may include only (1) Disks visible to a particular cluster node "nodeA", e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:*" (2) A particular disk visible to a particular node, e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:6a.01". (3) A disk with a particular unique id, e.g., "query.storage-disk-info.disk-uid=20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000" (4) Disks with a name that matches a certain wildcard pattern, e.g., "query.storage-disk-info.disk-name=1.*" or "query.storage-disk-info.disk-name=NET-1.*" for virtual disks. (5) Disks assigned to a particular node. e.g., "query.storage-disk-info.disk-ownership-info.home-node-id=1252487" or "query.storage-disk-info.disk-ownership-info.home-node-name=nodeA". (6) Some subset of disks in the cluster or visible to a particular node in the cluster. If 'desired-attributes' is included, then only those data specified by in 'desired-attributes' are returned for each disk. If there is badly formed input or an invalid input value is specified, then EINVALIDINPUTERROR is returned. If there is some internal error which prevents processing of this request, then EINTERNALERROR is returned.

Input Name	Range	Type	Description
desired-attributes		storage-disk-info optional	May be used to express which data are returned for each disk. If omitted, then all available data are returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return to the caller per iteration. The default is 2000 for clustered ONTAP. It's 200 for D-blade calls. If the total number of records exceeds either the 'max-records' supplied, or the number the system is capable of returning at one time, then storage-disk-get-iter must be called multiple times to get all the records. The 'num-records' output field informs the caller how many records are returned by a single iterative call to storage-disk-get-iter.
query		storage-disk-info optional	May be used to express which disks to include in the return list. If omitted, then all disks are returned. If the input query is badly formed, then EINVALIDINPUTERROR is returned. If there are no disks which match the input query, then there is no error. However, no disk records are returned.
tag		string optional	This indicates where to continue iteration. A first invocation would normally omit this, to indicate to start iteration with the first disk. If multiple invocations are required to fetch all disk records, then each successive call would set 'tag' to the 'next-tag' value from the prior invocation. If an invalid value is specified, then EINVAIDINPUTERROR is returned.

Output Name	Range	Type	Description
attributes-list		storage-disk-info[] optional	List of disk records.

next-tag		string optional	An opaque string indicating that there are more records to fetch. If this field is returned, then the API must be called again with the 'tag' parameter set to this 'next-tag' value, to continue fetching additional records from this point. Omitted if there are no more records to fetch.
num-records	**[0..2000]**	integer	The number of records returned in this call. This is guaranteed to be less than or equal to the minimum of 'max-records' and 2000.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

storage-disk-set-foreign-lun

[top]

Sets or Unsets an array LUN as foreign

Input Name	Range	Type	Description
disk		string	Disk Name
is-foreign-lun		boolean	Is Foreign LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **fw-update-status-info**

[top]

List of disks that are pending updates, but not able to be updated.

Name	Range	Type	Description
avg-duration		integer optional	Average firmware update duration per disk in seconds.
update-completion		integer optional	Estimate for background firmware download completion in minutes.
update-unable		string optional	Name of disk that cannot be updated.
waiting-disks		integer optional	The number of disks waiting for firmware update.

Element definition: **storage-disk-info**

[top]

Disk record.

Name	Range	Type	Description
disk-inventory-info		disk-inventory-info optional	Device driver information. Omitted if excluded by 'desired-attributes'.
disk-metrocluster-info		disk-metrocluster-info optional	Disk metrocluster related information. Ommitted if excluded by 'desired-attributes'.
disk-name		string optional	Name of disk, e.g. "1.1.2" or "NET-1.1" for a virtual disk. Omitted if excluded by 'desired-attributes'.
disk-ownership-info		disk-ownership-info optional	Disk ownership information. Omitted if excluded by 'desired-attributes'.
disk-paths		disk-path-info[]	List of all known paths associated with this disk. Omitted if no paths to report, or if excluded by 'desired-attributes'.

		optional	
disk-raid-info		disk-raid-info optional	RAID disk information. Omitted if disk is not visible to RAID, or if this information is excluded by 'desired-attributes'.
disk-stats-info		disk-stats-info optional	Statistics about disk. Omitted if no stats to report, or if excluded by 'desired-attributes'.
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'.
node-name		string optional	Name of the node supplying this disk record. Omitted if excluded by 'desired-attributes'.

Element definition: **disk-inventory-info**

[top]

Disk inventory info.

Name	Range	Type	Description
bytes-per-sector	**[0..2^16-1]**	integer optional	Number of bytes per disk sector. A sector count element, such as 'capacity-sectors' and 'right-size-sectors', may be multiplied by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'.
capacity-sectors	**[0..2^64-1]**	integer optional	Total number of disk sectors on this disk, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'.
carrier-id		string optional	Unique identifier of the disk carrier. Maximum length of 34 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'.
carrier-serialno		string optional	Unique serial number of the disk carrier. Maximum length of 17 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'.
checksum-compatibility		string optional	An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Omitted if not available or if excluded by 'desired-attributes'. Starting in Data ONTAP 8.1, "zoned/block" is no longer supported. Possible values: • "advanced_zoned" - Supports advanced zoned checksum. • "block" - Supports block checksum. • "none" - No checksum support. • "zoned/advanced_zoned" - Supports zoned and advanced zoned checksum (this value is no longer supported).
disk-class		string optional	Disk class of this disk. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Omitted if excluded by 'desired attributes'. Possible values: • "unknown" - Unknown disk class. • "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA. • "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS. • "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA. • "solid_state" - Solid-state drives. Includes disk type SSD. • "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN • "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.
disk-cluster-name		string optional	A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'. Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
			Disk interface type. Omitted if excluded by 'desired-attributes'. Possible values: • "ATA" • "BSAS"

disk-type		string optional	• "FCAL" • "LUN" • "MSATA" • "SAS" • "SSD" • "SSD_NVM" • "FSAS" • "VMDISK" • "unknown"
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by desired-attributes'.
drawer		integer optional	Used for shelves with drawers. Identifies the physical drawer where this disk is located.
drawer-slot		integer optional	Used for shelves with drawers. Identifies which slot in the drawer this disk is located.
firmware-revision		string optional	Firmware revision of disk. The format of the firmware revision will vary depending on the type of disk and its vendor. Omitted if excluded by 'desired-attributes'.
grown-defect-list-count	**[0..2^64-1]**	integer optional	Number of entries in the drive's grown defect list. Omitted if excluded by 'desired-attributes'.
health-monitor-time-interval	**[0..2^63-1]**	integer optional	Number of seconds we have been keeping track of errors from storage health monitor (SHM). Omitted if excluded by 'desired-attributes'.
hw-minimum-os		string optional	Hardware minimum supported Data ONTAP version for the disk. Omitted if not available or if excluded by 'desired-attributes'.
import-in-progress		boolean optional	For array LUNs marked with container-type of foreign, this value indicates when data is actively being imported from this disk. Omitted if excluded by 'desired-attributes'.
is-dynamically-qualified		boolean optional	True if the drive was dynamically qualified. Omitted if excluded by 'desired-attributes'.
is-foreign		boolean optional	Indicates an array LUN has been designated as a foreign LUN and cannot be assigned. Omitted if excluded by 'desired-attributes'.
is-internal-disk		boolean optional	True if the disk is located within an internal shelf. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
is-multidisk-carrier		boolean optional	True if the disk is in a carrier which contains more than one disk. Omitted if excluded by 'desired-attributes'.
is-shareable		boolean optional	True if the disk supports sharing. Omitted if excluded by 'desired-attributes'.
is-shared		boolean optional	True if the disk is a shared disk. Omitted if excluded by 'desired-attributes'.
location		string optional	Name of the node to which this disk is attached. Only Only available on virtual machines. Omitted if excluded by 'desired-attributes'.
location-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which this disk is attached. Only available on virtual machines. Omitted if excluded by 'desired-attributes'.
media-scrub-count	**[0..2^64-1]**	integer optional	Number of times media has been scrubbed since controller last powered on. Omitted if not available.
media-scrub-last-done-time-interval	**[0..2^63-1]**	integer optional	Number of seconds since a media scrub last completed. Omitted if not available.
model		string optional	Disk model string. Omitted if excluded by 'desired-attributes'.
reservation-key		string optional	Reservation key identifies which initiator target nexus holds the persistent reservation on this disk, 0x0 if there is none(range: 0x0 .. 0xffffffffffffffff). Omitted if excluded by 'desired-attributes'.
reservation-type		string optional	Describes the persistent disk reservation type. Omitted if excluded by 'desired-attributes'. Possible values: • "rs" - Read Shared Reservation. • "we" - Write Exclusive Reservation. • "re" - Read Exclusive Reservation. • "ea" - Exclusive Access Reservation. • "sa" - Shared Access Reservation. • "wero" - Write Exclusive Registrants Only Reservation. • "earo" - Exclusive Access Registrants Only Reservation. • "wear" - Write Exclusive All Registrants Reservation. • "eaar" - Exclusive Access All Registrants Reservation. • "none" - No Reservation.
right-size-sectors	**[0..2^64-1]**	integer optional	Number of usable disk sectors that remain after subtracting the right-size adjustment for this disk. Given in units of 'bytes-per-sector'. Omitted if information is unavailable, or if excluded by 'desired-attributes'.
rpm		integer optional	Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, if rpm does not apply to this 'disk-type', or if excluded by 'desired-attributes'.

serial-number		string optional	Disk serial number. Maximum length of 129 characters. Omitted if excluded by 'desired-attributes'.
shelf		string optional	Disk shelf, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
shelf-bay		string optional	Disk shelf bay, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
shelf-uid		string optional	Unique identifier for a shelf as reported by SES. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
stack-id	**[0..2^32-1].**	integer optional	A cluster unique id for a collection of one or more interconnected shelves. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
storage-sed-info		storage-sed-info optional	Self-encrypting disk info Omitted if disk is not a Self-Encrypting Disk (SED), or if excluded by "desired-attributes'.
storage-ssd-info		storage-ssd-info optional	solid state device specific lifecycle data Omitted if 'disk-type' is not "SSD", or if excluded by 'desired-attributes'.
vendor		string optional	Vendor of this disk. Omitted if excluded by 'desired-attributes'.
virtual-machine-disk-info		virtual-machine-disk-info optional	A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few.
vmdisk-backing-info		vmdisk-backing-info optional	Backing info block for virtual machine disks.
vmdisk-target-address		string optional	Target address of the VM Disk.

Element definition: **disk-metrocluster-info**

[top]

Disk Metrocluster Info.

Name	Range	Type	Description
is-local-attach		boolean optional	Indicates if a disk is locally attached, vs remotely attached. A locally attached disk resides in the same proximity as the host cluster vs. attached to the remote cluster.

Element definition: **disk-ownership-info**

[top]

Disk sanown information.

Name	Range	Type	Description
age	**[0..2^64-1]**	integer optional	Elapsed time in milli seconds since the last time the ownership was read from disk
data-home		string optional	Name of the home owner of the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data-home-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of the home owner of the data partition (in case of root-data partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'.
data-owner		string optional	Name of node that currently owns the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the data partition (in case of root-data partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'.
data1-home		string optional	Name of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data1-home-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'.
data1-owner		string optional	Name of node that currently owns the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data1-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the data1 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'.
data2-home		string optional	Name of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data2-	**[0..2^32-**	integer	ID (NVRAM ID) of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) of

home-id	**1]**	optional	this disk. Omitted if excluded by 'desired-attributes'.
data2-owner		string optional	Name of node that currently owns the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data2-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the data2 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'.
disk-pool-list-info		disk-pool-info[] optional	List of node-suggested pool pair for every disk.
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'.
dr-home-node-id	**[0..2^32-1].**	integer optional	ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home id.
dr-home-node-name		string optional	This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home owner.
home-node-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
home-node-name		string optional	Name of the home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
is-failed		boolean optional	'true' if the disk is failed such that its ownership cannot be determined. Omitted if excluded by 'desired-attributes'.
owner-node-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node that currently owns this disk. Normally 'owner-node-id' matches 'home-node-id'. However, SFO style HA changes 'owner-node-id' when it localizes partner storage on takeover; and restores it to 'home-node-id' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
owner-node-name		string optional	Name of node that currently owns this disk. Normally 'owner-node-name' matches 'home-node-name'. However, SFO style HA changes 'owner-node-name' when it localizes partner storage on takeover; and restores it to 'home-node-name' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
owner-update-count	**[0..2^32-1]**	integer optional	Number of times ownership changed since disk was unowned.
pool	**[0..2^32-1]**	integer optional	Pool to which disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
reserved-by-node-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node which currently holds the persistent reservation on this disk, 0 if there is none. Omitted if excluded by 'desired-attributes'.
root-home		string optional	Name of the home owner of the root partition on this disk. Omitted if excluded by 'desired-attributes'.
root-home-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of the home owner of the root partition of this disk. Omitted if excluded by 'desired-attributes'.
root-owner		string optional	Name of node that currently owns the root partition on this disk. Omitted if excluded by 'desired-attributes'.
root-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the root partition of this disk is assigned. Omitted if excluded by 'desired-attributes'.

Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

Name	Range	Type	Description
array-name		string	The name of the array providing the lun.
disk-name		string	The name of the disk this path information is for
disk-port		string optional	Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target.
disk-port-name		string optional	Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target. Possible values: • "FC:A" • "FC:B" • "SA:A" • "SA:B"

			• "NV:A" • "NV:B"
disk-uid		string	Disk's UID, as supplied by the hardware, used to uniquely identify this disk.
initiator-io-kbps		integer	Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1]
initiator-iops		integer	Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1]
initiator-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1]
initiator-port		string	Initiator port name, e.g. 0a.
initiator-port-speed		string	The speed that the initiator port has negotiated with its connected switch, or target port if direct attached.
initiator-side-switch-port		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach
lun-io-kbps		integer	Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1]
lun-iops		integer	Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1]
lun-number		integer	LU number. Range: [0..65535]
lun-path-use-state		string	ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time.
node		string	Controller with the initiator port for this path.
path-io-kbps		integer	Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1]
path-iops		integer	Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1]
path-link-errors		integer	Number of link errors reported on the path. Range: [0..2^32-1]
path-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1]
path-quality		integer	The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1]
preferred-target-port		boolean optional	For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are: • true: This path routes to a preferred target port group for this array LUN. • false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group.
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-iqn		string optional	Target IQN of target port providing the disk.
target-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1]
target-port-access-state		string	failover optimization type
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwnn		string	World Wide Node Name of the target device.
target-wwpn		string	World Wide Port Name of target port providing the disk.
tpgn		integer	The Target Port Group Number of the array's target port. Range: [0..2^64-1]
vmdisk-device-id		integer optional	The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1]

vmdisk-hypervisor-area-name		string optional	The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore.
vmdisk-hypervisor-file-name		string optional	The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk"

Element definition: **disk-raid-info**

[top]

RAID specific information about a disk, including RAID specific disk properties, and the disk's overlying container.

Name	Range	Type	Description
active-node-name		string optional	Name of the node that is the active RAID controller for this disk, if any. Omitted if unavailable, or excluded by 'desired-attrributes'.
container-type		string optional	Type of overlying disk container. Omitted if information is unavailable, or excluded by 'desired-attributes'. Possible values: • "aggregate" - Container is an aggregate. • "broken" - Container is broken pool. • "foreign" - Array LUN has been marked foreign. • "labelmaint" - Container is online label maintenance list. • "maintenance" - Container is disk maintenance center. • "mediator" - Container is a mediator disk. • "remote" - Disk belongs to the remote cluster. • "shared" - Container is storage pool. • "spare" - Container is spare pool. • "unassigned" - Disk ownership has not been assigned. • "unknown" - Container is currently unknown. This is the default setting. • "volume" - Container is a traditional volume. • "unsupported" - Container is not supported.
disk-aggregate-info		disk-aggregate-info optional	Information giving disk's basic disposition within its overlying aggregate or traditional volume. Omitted if container-type is not "aggregate" or "volume", or if excluded by 'desired-attributes'.
disk-outage-info		disk-outage-info optional	Information about a disk that is not in service. Omitted if container-type is not "broken", "maintenance", "labelmaint", or "unassigned", or if excluded by 'desired-attributes'.
disk-shared-info		disk-shared-info optional	Information giving disk's basic disposition within its overlying storage pool. Omitted if container-type is not "shared", or if excluded by 'desired-attributes'.
disk-spare-info		disk-spare-info optional	Information giving disk's basic disposition within its overlying spare pool. Omitted if container-type is not "spare", or if excluded by 'desired-attributes'.
disk-state		disk-state-info[] optional	Information giving RAID specific state of the disk. Omitted if information is unavailable.
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'.
effective-disk-type		string optional	Effective disk interface type. Disks can report different physical 'disk-type', but the same 'effective-disk-type'. Disks with the same 'effective-disk-type' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'. Possible values: • "ATA" • "FCAL" • "LUN" • "MSATA" • "SAS" • "BSAS" • "SSD" • "SSD_NVM" • "FSAS" • "VMDISK" • "unknown"
effective-rpm		integer optional	Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-rpm'. Disks with the same 'effective- rpm' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'.

physical-blocks	**[0..2^64-1]**	integer optional	RAID recorded disk capacity expressed in units of 4096-byte blocks. Typically this is the disk capacity reported by disk driver, but rounded down to the nearest 4096-byte block. Omitted if information is unavailable, or if excluded by 'desired-attributes'.
position		string optional	Position of disk relative to its container-type. Omitted if excluded by 'desired-attributes'. Possible values: • "copy" - RAID group copy destination disk. • "data" - RAID group data disk. • "tparity" - RAID group third (anti-diagonal) parity disk. • "dparity" - RAID group diagonal parity disk. • "orphan" - Disk is orphan of an aggregate or traditional volume. • "parity" - RAID group parity disk. • "pending" - Disk is pending addition to an aggregate or traditional volume. • "present" - Disk is present in system. This is the default setting.
spare-pool		string optional	Name of RAID managed spare pool with which this disk is associated. Omitted if unavailable. Generally determined both by whether ownership has been assigned for this disk, and whether SyncMirror feature is supported on the reporting node. This disk may not currently be contained within this spare-pool, such as if it's been allocated to an aggregate or removed from service. This is the spare pool with which disk would be contained if/when it is initialized or released as a spare. Omitted if excluded by 'desired-attributes'. Possible values: • "Pool0" - Disk is associated with spare Pool0. • "Pool1" - Disk is associated with spare Pool1. • "spare" - Disk is associated with the general spare pool. • "unknown" - Cannot determine spare pool associativity for this disk.
standard-disk-type		standarddisktype optional	Industry standard disk type. Note suggested display strings for each value. Possible values: • "sata" - SATA, Serial Advanced Technology Attachment, • "fc" - FC, Fibre Channel, • "nl_sas" - NL-SAS, Near Line SAS • "lun" - LUN, SCSI Logical Unit Number (e.g. Array), • "sas" - SAS, Serial Attached SCSI, • "scsi" - SCSI, Small Computer System Interface, • "ssd" - SSD, Solid-State Disk, • "vm_disk" - VM Disk, Hypervisor Virtual Disk, • "unknown" - Unknown Disk Type, • "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk Attributes: non-creatable, non-modifiable
used-blocks	**[0..2^64-1]**	integer optional	RAID recorded size of file system region on this disk, given in units of 4096-byte blocks. Typically based upon the disk's right-size capacity, but it may be smaller if RAID has downsized this disk, such as due to reconstruct replacing a smaller with a larger disk. This is distinct from WAFL usage of file system space. Omitted if information is unavailable, or if excluded by 'desired-attributes'.

Element definition: **disk-stats-info**

[top]

Contains disk statistics.

Name	Range	Type	Description
average-latency	**[0..2^32-1]**	integer optional	Access time to disk in milliseconds. Omitted if excluded by 'desired-attributes'.
bytes-per-sector	**[0..2^16-1]**	integer optional	Number of bytes per disk sector. A sector count element, such as 'sectors-read' and 'sectors-written', may be multipled by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'.
disk-io-kbps	**[0..2^64-1]**	integer optional	Rolling average of kilobytes per second read and written to this disk. Omitted if excluded by 'desired-attributes'.
disk-iops	**[0..2^64-1]**	integer optional	Rolling average of I/O operations per second read and written to this disk. Omitted if excluded by 'desired-attributes'.
disk-uid		string optional	Unique identifier of disk for this disk. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'.
import-in-progress		boolean optional	For disks marked with container-type = foreign, this value is true when data is actively being imported from this disk.
path-error-count	**[0..2^32-1]**	integer optional	The number of errors on this disk. Omitted if excluded by 'desired-attributes'.
power-on-time-interval	**[0..2^63-1]**	integer optional	Number of seconds the drive has been powered on. Omitted if excluded by 'desired-attributes'.

sectors-read	**[0..2^64-1]**	integer optional	Number of disk sectors read since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'.
sectors-written	**[0..2^64-1]**	integer optional	Number of disk sectors written since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'.

Element definition: **disk-aggregate-info**

[top]

Details giving disk's basic disposition within its overlying aggregate or traditional volume. Information that is specific to a disk contained within an aggregate or traditional volume is returned here. Returned only if 'container-type' is "aggregate" or "volume".

Name	Range	Type	Description
aggregate-name		string optional	Name of aggregate or traditional volume with which this disk is associated. Omitted if excluded by 'desired-attributes'.
checksum-type		string optional	The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'. Possible values: • "advanced_zoned" - Advanced zoned checksum. • "block" - Block checksum. • "none" - No checksum type assigned. • "wafl" - WAFL checksum. • "zoned" - Zoned checksum (this value is no longer supported).
copy-destination-cluster-name		string optional	cluster unique name of the copy destination disk. 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'. Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-destination-name		string optional	name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-percent-complete	**[0..100]**	integer optional	Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true, and if position is not "copy".
copy-reason		string optional	The reason this disk has been marked for a disk copy operation. Possible values include: • "evacuation" - Disk is marked for evacuation. • "layout_optimization" - Disk is marked for layout optimization. • "shared_disk_replacement"- Disk is marked for replacement. Omitted if disk copy is not in progress or excluded by 'desired-attributes'.
is-evacuating		boolean optional	True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'.
is-in-root-aggr		boolean optional	True only if this disk is in a root aggregate.
is-media-scrubbing		boolean optional	True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'.
is-offline		boolean optional	True if disk is offline. Omitted if excluded by 'desired-attributes'.
is-prefailed		boolean optional	True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'.
is-reconstructing		boolean optional	True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'.
is-replacing		boolean optional	True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'.
is-zeroed		boolean optional	True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'.
is-zeroing		boolean optional	True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'.
		string	Name of plex with which this disk is associated. Omitted if disk is not associated with a plex, or if

plex-name		optional	excluded by 'desired-attributes'.
raid-group-name		string optional	Name of RAID group to which this disk belongs. Omitted if disk does not belong to a RAID group, or if excluded by 'desired-attributes'.
reconstruct-percent-complete	**[0..100]**	integer optional	Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'.
zeroing-percent-complete	**[0..100]**	integer optional	Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'.

Element definition: **disk-outage-info**

[top]

Information about a disk that is not in service.

Name	Range	Type	Description
is-in-fdr		boolean optional	True if disk has entry in the persistent Failed Disk Registry. Omitted if excluded by 'desired-attributes'.
reason		string	Reason disk is not in service. Omitted if excluded by 'desired-attributes'. Possible values: • "admin failed" - Admin has persistently failed disk. • "admin removed" - Admin requested spare disk to be removed from system. • "admin testing" - Admin isolated disk for maintenance testing. • "bad label" - Disk has bad RAID label. • "bypassed" - Disk has been bypassed. • "failed" - Disk is persistently failed. • "init failed" - Disk failed initialization. • "label version" - Disk has invalid RAID label version. • "labeled broken" - Disk was persistently failed in a prior Data ONTAP release. • "labelmaint" - Disk is isolated for online label maintenance. • "LUN resized" - Array LUN was inappropriately resized. • "missing" - Disk has gone missing. • "not responding" - Disk is non-responsive. • "predict failure" - Disk failure is predicted. capacity than previously. • "rawsize shrank" - Disk reporting smaller • "recovering" - Disk is underoing recovery. • "sanitizing" - Disk is in process of being sanitized. • "sanitized" - Disk sanitization complete, but admin has not yet released disk back to the spare pool. in this release. • "trad_vol_disk" - Traditional Volume Disk, not supported on clustered data ONTAP systems. • "SnapLock Disk" - SnapLock disk, not supported. • "testing" - System isolated disk for maintenance testing. • "unassigned" - Disk ownership has not been assigned. • "unknown" - Don't know reason disk is not in service.

Element definition: **disk-pool-info**

[top]

node-suggested pool pair for every disk.

Name	Range	Type	Description
node-for-pool		string optional	Name of node for which the pool suggestion corresponds to.
pool-suggestion	**[0..2^32-1]**	integer optional	Pool to which partitions in the disk may be assigned. If the disk is part of a loop that does not have any disks assigned to the specific node or has disks of mutiple pools assigned to the specific node, the pool will be 255.

Element definition: **disk-shared-info**

[top]

Details giving disk's basic disposition within its overlying storage pool. Information that is specific to a disk that is contained within a storage pool belongs here.

Name	Range	Type	Description

aggregate-list		shared-aggregate-info[] optional	List of aggregates sharing this disk. Omitted if not available or excluded by 'desired attributes'.
checksum-type		string optional	The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'. Possible values: • "advanced_zoned" - Advanced zoned checksum. • "block" - Block checksum. • "zoned" - Zoned checksum (this value is no longer supported).
copy-destination-cluster-name		string optional	disk cluster name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-destination-name		string optional	name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-percent-complete	**[0..100]**	integer optional	Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true.
copy-progress	**[0..2^64-1]**	integer optional	Progress of disk copy in blocks. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true.
copy-reason		string optional	The reason this disk has been marked for a disk copy operation. Possible values include: • "evacuation" - Disk is marked for evacuation. • "layout_optimization" - Disk is marked for layout optimization. Omitted if disk copy is not in progress or excluded by 'desired-attributes'.
copy-size	**[0..2^64-1]**	integer optional	total size of disk copy in blocks. If N partitions of disk are under disk copy, copy-size will refer to cumulative size of those N partitions. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true.
is-evacuating		boolean optional	True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'.
is-in-root-aggr		boolean optional	True only if this disk has in a partition in a root aggregate.
is-media-scrubbing		boolean optional	True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'.
is-offline		boolean optional	True if disk is offline. Omitted if excluded by 'desired-attributes'.
is-prefailed		boolean optional	True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'.
is-reconstructing		boolean optional	True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'.
is-replacing		boolean optional	True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'.
is-sparecore		boolean optional	True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'.
is-zeroed		boolean optional	True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'.
is-zeroing		boolean optional	True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'.
num-data-partitions	**[0..100]**	integer optional	This field indicates the number of data partitions on this disk if it's a shared disk.
num-root-partitions	**[0..100]**	integer optional	This field indicates the number of root partitions on this disk if it's a shared disk.
num-total-partitions	**[0..100]**	integer optional	This field indicates the total number of partitions on this disk if it's a shared disk.
partial-record		boolean optional	True if record for this disk is sent by only one node. From D-blade it will always be set as true. At cluster level we set it to false if we received record from both nodes.
partitioning-type		string optional	This field indicates whether disk is partitioned or storage pool disk. This field is available only if 'container-type' is "shared". Possible values include: • "root_data" - Disk is root-data partitioned disk. • "root_data1_data2" - Disk is root-data1-data2 partitioned disk. • "storage_pool" - Disk is storage pool disk. Omitted if excluded by 'desired attributes'.

reconstruct-percent-complete	**[0..100]**	integer optional	Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'.
reconstruct-progress	**[0..2^64-1]**	integer optional	Completion of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true.
reconstruct-size	**[0..2^64-1]**	integer optional	Total size of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true.
sparecore-eligible-nodes		node-name[] optional	List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'.
static-part-method		boolean optional	This field indicates if the partitioning method corresponding to this disk is a static (init-time) partitioning method.
storage-pool		string optional	Cluster wide unique name of RAID managed storage pool with which this disk is associated.
storage-pool-uuid		string optional	Unique identifier of RAID managed storage pool with which this disk is associated.
zeroing-percent-complete	**[0..100]**	integer optional	Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'.
zeroing-progress	**[0..2^64-1]**	integer optional	Completion of disk zeroing in blocks. Omitted if is-zeroing' is not true.
zeroing-size	**[0..2^64-1]**	integer optional	Total size of disk zeroing in blocks. Omitted if is-zeroing' is not true.

Element definition: **disk-spare-info**

[top]

Details giving disk's basic disposition within its overlying spare pool. Information that is specific to a disk that is contained within a spare pool belongs here.

Name	Range	Type	Description
is-media-scrubbing		boolean optional	True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'.
is-offline		boolean optional	True if disk is offline. Omitted if excluded by 'desired-attributes'.
is-sparecore		boolean optional	True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'.
is-zeroed		boolean optional	True if disk has been pre-zeroed. Omitted if excluded by 'desired-attributes'.
is-zeroing		boolean optional	True if disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'.
sparecore-eligible-nodes		node-name[] optional	List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'.
zeroing-percent-complete	**[0..100]**	integer optional	Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'.

Element definition: **disk-state-info**

[top]

Details giving disk's RAID specific state information. For disks that are shared between both nodes this will give states as seen by both nodes.

Name	Range	Type	Description
			RAID specific state of the disk. Possible values: • "invalid" • "notzeroed" • "zeroing" • "zeroed" • "inuse" • "notpresent" • "failing" • "failed" • "unfailing" • "uninited"

disk-fsm-state		string optional	• "orphaned" • "unknown" • "sparing" • "fakezeroed" • "sdc" • "offline" • "online" • "partitioning" • "partitioned" • "unpartitioning" • "unpartitioned" • "present" • "replacing" • "offlining" • "prefailing"
node-name		string optional	Name of the node reporting disk state.

Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

Element definition: **storage-sed-info**

[top]

Self-encrypting disk (SED) info. Available from the disk-encrypt cluster ZAPI.

Name	Range	Type	Description
data-key-id		string optional	Key ID of the authentication key that the SED currently requires for authorization to modify the data protection controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
fips-key-id		string optional	Key ID of the authentication key that the SED currently requires for authorization to modify the FIPS-compliance controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-fips-sed		boolean	True if the disk is a FIPS-certified SED. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-non-fips-sed		boolean	True if the disk is a SED that is not FIPS-certified. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-power-on-lock-enabled		boolean optional	State of SED power-lock-enable control that determines whether authentication is required after subsequent SED power-cycles before I/O is allowed. True will require authentication; false indicates no authentication is needed to allow I/O. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-sed		boolean	True if the disk is a SED with or without FIPS certification. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
protection-mode		string optional	The summary of the data protection and FIPS compliance states. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.

Element definition: **storage-ssd-info**

[top]

Storage info block for solid-state storage devices.

Name	Range	Type	Description
percent-rated-life-used	**[0..255]**	integer optional	An estimate of the percentage of device life that has been used, based on the actual device usage and the manufacturer's prediction of device life. A value greater than 99 indicates that the estimated endurance has been consumed, but may not indicate a device failure. Omitted if value is unknown.
percent-spares-consumed	**[0..100]**	integer optional	Percentage of device spare blocks that have been used. Each device has a number of spare blocks that will be used when a data block can no longer be used to store data. This value reports what percentage of the spares have already been consumed. Omitted if value is unknown.
percent-spares-consumed-limit	**[0..100]**	integer optional	Spares consumed percentage limit reported by the device. Omitted if value is unknown.

Element definition: **virtual-machine-disk-info**

[top]

A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few.

Name	Range	Type	Description
vmdisk-adapter-device		string optional	Backing adapter device name. Example is "vmhba32".
vmdisk-adapter-driver		string optional	Backing adapter driver name. For example, "mptsas". For iSCSI connections, this element represents name of the iSCSI initiator. Example is "iqn.1998-01.com.vmware:esxhostname-5d1555b6".
vmdisk-adapter-model		string optional	Backing adapter model type. Example is "LSI1064E", "iSCSI Software Adapter".
vmdisk-adapter-pci		string optional	Backing adapter PCI device ID for the virtual disk. For iSCSI connections, this element is empty. Example is "50:00.0".
vmdisk-container-name		string optional	Container associated with the VM Disk. Example is "container1"
vmdisk-lun-canonical-name		string optional	Hypervisor-assigned unique ID of the backing device (disk or LUN). Example is "naa.75hsfe523hnsfhf46323".
vmdisk-lun-capacity	**[0..2^64-1]**	integer optional	Size of the backing device (disk or LUN) in bytes. Example is "4294967296".
vmdisk-lun-model		string optional	Backing device (disk or lun) model. Example is "LUN", "MBE2073RC".
vmdisk-lun-partition		integer optional	Backing disk partition number where the corresponding VM disk file resides. Example is "3".
vmdisk-lun-vendor-name		string optional	Name of the backing device manufacturer. Example is "FUJITSU".
vmdisk-object-name		string optional	Page blob associated with the VM Disk. Example is "blob1"
vmdisk-storage-account		string optional	Storage account associated with the VM Disk. Example is "storageaccount1"
vmdisk-store-capacity	**[0..2^64-1]**	integer optional	The size of the disk backing store in bytes. Example is "4294967296".
vmdisk-store-nas-path		string optional	Full path to the backing store. This field is valid only for NAS connections. Example is "myvm.domain.com:/backingStoreName".
vmdisk-store-type		string optional	Type of the disk backing store. It can be a VMFS volume, a directory on network-attached storage, or a local file system path. Possible values are "NFS", "VMFS".
vmdisk-target-iscsi-address		string optional	The iSCSI IP address (IPv4 or IPv6) of the disk backing target. This field is valid only for iSCSI connections. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmdisk-target-iscsi-name		string optional	The iSCSI name of the disk backing target. This field is valid only for iSCSI connections. Example is "iSCSI-targ.com.optional-string".
vmdisk-target-lun-id		string optional	SCSI device name for the backing disk. It takes the form target-id:lun-id. Example is "3:1".
vmhost-error		string optional	Error (if any) while retrieving the virtual disk details. Example is "vSphere server is missing".

Element definition: **vmdisk-backing-info**

[top]

Backing info block for virtual machine disks.

Name	Range	Type	Description
vmdisk-backing-device-id		string	Device id of the underlying disk.
vmdisk-backing-disk-model		string	Product id of the underlying disk.
vmdisk-backing-serial-number		string	Serial number of the underlying disk.
vmdisk-backing-vendor-id		string	Vendor of the underlying disk.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **shared-aggregate-info**

[top]

Name of desired aggregate.

Name	Range	Type	Description
aggregate-name		string optional	String representing name of the aggregate.

APIs in Category: **storage-disk-firmware**

storage-disk-firmware-file-get-iter	This is an auto generated category.

storage-disk-firmware-file-get-iter

[top]

return the firmware file list

Input Name	Range	Type	Description
desired-attributes		storage-disk-firmware-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-disk-firmware-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-disk-firmware-file[] optional	The list of attributes of storage-acp-firmware objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-acp-firmware objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-disk-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
filename		string optional	Storage Firmware File Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **storage-initiator**

storage-initiator-balance
storage-initiator-disk-path-list-info
storage-initiator-errors-list-info
storage-initiator-get-load
storage-initiator-path-list-info
storage-initiator-path-quiesce
storage-initiator-path-resume

These APIs are used to get information on initiator ports as related to their role as a gateway to back end storage.

storage-initiator-balance

[top]

Balances primary/secondary array LUN paths across available initiator ports based on I/O load. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

Input Name	Range	Type	Description
node		string	node to balance initiator ports on

Errno	Description
EINTERNALERROR	

storage-initiator-disk-path-list-info

[top]

Returns path information and statistics for a given disk or all disks. We use the word disk to refer to an array lun, real disk, or Solid State Device This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

Input Name	Range	Type	Description
disk-name		string optional	The name of the disk to list path information for. If not supplied all paths to all attached targets are returned.

Output Name	Range	Type	Description
disk-path-info		disk-path-info[]	A table of per path statistics, errors and other related data for this disk

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	

storage-initiator-errors-list-info

[top]

Lists all known disk/configuration errors associated with an array or shelves acting like array.

Input Name	Range	Type	Description
array-name		string optional	The name of the array to list error information for. (28 chars)
disk-name		string optional	The name of the disk or array lun to list error information for. If not specified, all errors for all disks/array LUNs will be returned.

Output Name	Range	Type	Description
errors		storage-error-info[] optional	A list of all errors for the requested array/shelf or disks/luns.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EARRAYNOTFOUND	
EDISKNOTFOUND	

storage-initiator-get-load

[top]

Gets disk I/O rates for a given fibre channel initiator port or for all initiator ports if no port is specified. The term disk refers to an array LUN, actual disk, or solid state device. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

Input Name	Range	Type	Description
node		string optional	Obtain disk I/O rates for initiator ports on the specified node.
port		string optional	Port to show load on, e.g. 0a.

Output Name	Range	Type	Description
load-info		storage-initiator-load-info[] optional	A table of per disk load related information for the named port. Omitted if no array LUNs are visible, or some other internal error occurs.

storage-initiator-path-list-info

[top]

Returns information and statistics on all known paths to back end storage.

Input Name	Range	Type	Description
node		string optional	Obtain back end storage path statistics for this node.

Output Name	Range	Type	Description
path-info		storage-initiator-path-info[] optional	A table of back end path statistics, errors and other related data.

Errno	Description
EINTERNALERROR	

storage-initiator-path-quiesce

[top]

Quiesces an array LUN on a path. A quiesced array LUN will not be sent I/O on the specified path.

Input Name	Range	Type	Description
initiator		string	The initiator port of the path that I/O will be quiesced on.
lun-number		integer optional	LU number. If this value is not specified then the command applies for the specified path. Range: [0..65535]
node		string	The node name on which the quiesce is issued
path-failure-threshold		integer optional	The path failure count, exceeding the specified value within wait duration will quiesce the path. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. wait-duration must be specified along with path-failure-threshold. Range: [1..100]
target-wwpn		string	The array target port of the path that I/O will be quiesced on. World wide port number has to be specified without colons.
wait-duration		integer optional	The time duration in which path is monitored for path failures. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. path-failure-threshold must be specified along with wait-duration. Range: [1..1440]

Errno	Description
EINTERNALERROR	
EINVALIDPATH	
ECANTQUIESCELASTPATH	
EDISKNOTFOUND	
EINVALIDTARGET	
EQUIESCEFAILED	
ELUNQUIESCING	
EQUIESCENOTSUPPORTED	
ETHRESHOLDWAIT	
ENOLUNQUIESCEONPATHQ	

storage-initiator-path-resume

[top]

Resumes I/O to array LUN on a path that was previously quiesced. Resuming I/O to a non-quiesced array LUN is a no-op and not an error.

Input Name	Range	Type	Description
initiator		string	The initiator port of the path that I/O will be resumed to.
lun-number		integer optional	LU number. If this value is not specified then the specified path will be resumed. Range: [0..65535]
node		string	The node name on which the resume is issued
target-wwpn		string	The array target port of the path that I/O will be resumed to. World wide port number has to be specified without colons.

Errno	Description
EINTERNALERROR	
EINVALIDPATH	
EDISKNOTFOUND	
EINVALIDTARGET	
ERESUMEFAILED	
ENOLUNRESUMEONPATHQ	

Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

Name	Range	Type	Description
array-name		string	The name of the array providing the lun.
disk-name		string	The name of the disk this path information is for
disk-port		string optional	Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target.
disk-port-name		string optional	Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target. Possible values: • "FC:A" • "FC:B" • "SA:A" • "SA:B" • "NV:A" • "NV:B"
disk-uid		string	Disk's UID, as supplied by the hardware, used to uniquely identify this disk.
initiator-io-kbps		integer	Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1]
initiator-iops		integer	Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1]
initiator-lun-in-use-		integer	Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1]

count			
initiator-port		string	Initiator port name, e.g. 0a.
initiator-port-speed		string	The speed that the initiator port has negotiated with its connected switch, or target port if direct attached.
initiator-side-switch-port		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach
lun-io-kbps		integer	Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1]
lun-iops		integer	Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1]
lun-number		integer	LU number. Range: [0..65535]
lun-path-use-state		string	ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time.
node		string	Controller with the initiator port for this path.
path-io-kbps		integer	Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1]
path-iops		integer	Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1]
path-link-errors		integer	Number of link errors reported on the path. Range: [0..2^32-1]
path-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1]
path-quality		integer	The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1]
preferred-target-port		boolean optional	For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are: • true: This path routes to a preferred target port group for this array LUN. • false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group.
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-iqn		string optional	Target IQN of target port providing the disk.

target-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1]
target-port-access-state		string	failover optimization type
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwnn		string	World Wide Node Name of the target device.
target-wwpn		string	World Wide Port Name of target port providing the disk.
tpgn		integer	The Target Port Group Number of the array's target port. Range: [0..2^64-1]
vmdisk-device-id		integer optional	The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1]
vmdisk-hypervisor-area-name		string optional	The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore.
vmdisk-hypervisor-file-name		string optional	The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk"

Element definition: **storage-error-info**

[top]

Contains error messages associated with back end array/shelf/LUNs.

Name	Range	Type	Description
array-name		string	Name of the array/shelf with the configuration error.
disk-name		string	The name of the disk or array lun this error information is for.
disk-uid		string	Disk's UID, as supplied by the hardware, used to uniquely identify this disk.
error-id		integer	A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1]
error-text		string	A description of the error being reported.
error-type	**[1..16]**	integer	Enum describing type of error. Possible values: • 1 -Redundancy error, less than two paths to a disk. • 2 -Redundancy error, device is only accessible via a single fault domain, all paths go into the same target port group. • 3 -Device is a control LUN. • 4 -This foreign LUN has a reservation. • 5 -LUN too large; a LUN has been detected that is larger than the maximum size supported. • 6 -LUN too small; a LUN has been detected that is smaller than the minimum size supported. • 7 -Invalid Block Size; a LUN has been detected that has an unsupported block size. • 8 -A target port is accessible via multiple HBAs but the device to

			LUN id mappings aren't the same. • 9 -A device is presented at different LUN ids on different ports. • 10 -Multiple failover mode policies detected. • 11 -Unknown array LUN. • 12 -Data ONTAP(R) LUN. • 13 -Disk firmware is downrev. • 14 -Disk is not supported. • 15 -This disk is in a failed state. • 16 -This disk does not match the All-Flash Optimized personality of the system.
lun-serial-number		string	The serial number of the lun the error occurs on, blank if the error is not lun related.
node		string	The nodename reporting the disk or array lun with the error.

Element definition: **storage-initiator-load-info**

[top]

Contains per port per disk load information.

Name	Range	Type	Description
initiator-port		string	Initiator port name, e.g. 0a. If port is not specified, data for all ports is returned.
io-count		integer	Megabytes of data sent to this disk over this port. Range: [0..2^32-1]
lun-number		integer	Logical Unit Number. Range: [0..65535]
nodename		string	IP address of the node serving the port in dotted-decimal format (for example, "192.168.11.12").
percent-io		string	Percentage of all I/O on this port sent to this disk. Range: [0..100]
serial-number		string	Disk/LUN serial number. Maximum length of 129 characters.
switch-name		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach.
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwpn		string	World Wide Port Name of array's target port.

Element definition: **storage-initiator-path-info**

[top]

Contains per path statistics, errors and other related data.

Name	Range	Type	Description
array-name		string	The name of the array providing this path is connected to.
device-type		string optional	Type of LUN device. Describes the type of lun device or tape library. Possible Values are: • "array_lun" - Array LUN type • "tape_mc" - Tape Drive or Media Changer/library type • "unknown" - Unknown device type

initiator-io-kbps		integer	Rolling average of kilobytes per second read and written over this initiator port Range: [0..2^64-1]
initiator-iops		integer	Rolling average of I/O operations per second over this initiator port Range: [0..2^64-1]
initiator-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1]
initiator-port		string	Initiator port name, e.g. 0a.
initiator-port-speed		string	The speed that the initiator port has negotiated with its connected switch port, or target port if direct attached.
initiator-side-switch-port		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach.
node		string	The name of the node providing this path information.
path-failure-threshold		integer	The path failure count, exceeding this value within wait duration will quiesce the path. Range: [0..2^32-1]
path-io-kbps		integer	Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1]
path-iops		integer	Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1]
path-link-errors		integer	Number link errors reported on the path. Range: [0..2^32-1]
path-lun-in-use-count		integer	Number of disks in the IN-USE state on this path. Range: [0..2^64-1]
path-quality		integer	The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1]
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-iqn		string optional	World wide unique identification of iSCSI target.
target-lun-in-use-count		integer	Number of disks in the IN-USE state on this target port. Range: [0..2^64-1]
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwpn		string	World Wide Port Name of target port providing the disk.
tpgn		integer	The Target Port Group Number of the array's target port. Range: [0..2^64-1]
vmdisk-		integer	The device id used for the virtual device (also used by the hypervisor)

device-id		optional	Range: [0..2^32-1]
wait-duration		integer	The time duration in which path is monitored for path failure. Range: [0..2^32-1]

APIs in Category: **storage-iscsi-initiator**

storage-iscsi-initiator-add-target
storage-iscsi-initiator-connect
storage-iscsi-initiator-disconnect
storage-iscsi-initiator-get-iter
storage-iscsi-initiator-remove-target

storage-iscsi-initiator-add-target

[top]

Add an iSCSI target.

Input Name	Range	Type	Description
administrative-status		service-state optional	Specifies the initial administrative status of the connection. The default setting is up. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Possible values: • "down" , • "up"
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-name		string	The target name. Example: iqn.2012-06.com.bsdctl:target0
target-portal		string	The target's IP address. Example: 10.7.125.10
target-type		iscsi-initiator-target-type	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-iscsi-initiator-connect

[top]

Connect to an iSCSI target.

Input Name	Range	Type	Description
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-type		iscsi-initiator-target-type optional	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-iscsi-initiator-disconnect

[top]

Disconnect from an iSCSI target.

Input Name	Range	Type	Description
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-type		iscsi-initiator-target-	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks,

		type optional	• "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-iscsi-initiator-get-iter

[top]

Iterate over a list of iSCSI targets.

Input Name	Range	Type	Description
desired-attributes		storage-iscsi-initiator-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-iscsi-initiator-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-iscsi-initiator object. All storage-iscsi-initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-iscsi-initiator-info[] optional	The list of attributes of storage-iscsi-initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-iscsi-initiator objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

[top]

storage-iscsi-initiator-remove-target

Remove an iSCSI target.

Input Name	Range	Type	Description
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-type		iscsi-initiator-target-type optional	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

Element definition: **storage-iscsi-initiator-info**

[top]

iSCSI Initiator Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-status		service-state optional	Specifies the administrative status of the connection. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Attributes: non-creatable, non-modifiable Possible values: • "down" , • "up"
failure-reason		string optional	The reason for a failure. The possible reasons include internal errors, networking errors, and user errors. Attributes: non-creatable, non-modifiable
label		string optional	The user defined identifier for the iSCSI target. Attributes: key, non-creatable, non-modifiable
node		node-name optional	The name of the node. Attributes: key, non-creatable, non-modifiable
operational-		service-state	Specifies the operational status of the connection. Attributes: non-creatable, non-modifiable Possible values:

status		optional	• "down" , • "up"
target-name		string optional	The target name. Example: iqn.2012-06.com.bsdctl:target0 Attributes: non-creatable, non-modifiable
target-portal		string optional	The target's IP address. Example: 10.7.125.10 Attributes: non-creatable, non-modifiable
target-type		iscsi-initiator-target-type optional	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Attributes: key, non-creatable, non-modifiable Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

APIs in Category: **storage-pool**

storage-pool-add
storage-pool-aggregate-get-iter
storage-pool-available-capacity-get-iter
storage-pool-create
storage-pool-delete
storage-pool-disk-get-iter
storage-pool-get-iter
storage-pool-reassign
storage-pool-rename

This set of ZAPIs allows managing the storage pools in the cluster. Storage Pools are managed using storage pool names which are unique across the cluster.

storage-pool-add

[top]

Add disks to a storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
auto-grow-aggregates		boolean optional	Automatically grow the existing aggregates that are eligible for growing.
disk-count		integer optional	The number of disks that should be added to the storage pool. This option cannot be used with disk-list.
disk-list		disk-name[] optional	List of spare disks that need to be added to the storage pool. They should be of the same size as the existing disks in the storage pool.
nodes		node-name[] optional	List of nodes from which the spare disks that need to be added to storage pool can be selected.
simulate		boolean optional	Simulates the addition of disks to the given storage pool. If set to \"true\", addition of disks won't happen but returns a list of aggregates that would auto-grow and the size of the aggregate prior to grow and also after the auto-grow.
storage-pool		string	Name of the Storage Pool to which the spare disks will be added.

Output Name	Range	Type	Description
aggregates-autogrow-list		aggregate-autogrow-info optional	Information of aggregates that will auto-grow
available-capacity		size	The current available capacity in the pool in bytes.
new-available-capacity		size	The new available capacity in the pool in bytes after adding the disks to storage pool.
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.

result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".
selected-disks		disk-name[] optional	List of spare disks that would have been added to the storage pool.

Errno	Description
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	

storage-pool-aggregate-get-iter

[top]

This is a ZAPI used to iterate over a list of aggregates provisioned from storage pool.

Input Name	Range	Type	Description
desired-attributes		storage-pool-aggregate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-aggregate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-aggregate-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-available-capacity-get-iter

[top]

This is a ZAPI used to iterate over all available capacities available on each node in the cluster. These available capacities are listed per storage pool on each node.

Input Name	Range	Type	Description
desired-attributes		storage-pool-available-capacity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-available-capacity-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-available-capacity-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-create

[top]

Create a storage pool. Capacity can be allocated to aggregates from these storage pools using 'aggr-add'.

Input Name	Range	Type	Description
disk-count		integer optional	The number of disks that are part of the storage pool.
disk-list		disk-name[] optional	List of spare disks that should be used to create the storage pool.
			Usable size of the disk in bytes. Disks that are within 5% of the

disk-size		size optional	specified size will be selected for use in the storage pool. If it is not specified smallest disks are selected first. This option cannot be used with \"disk-list\".
nodes		node-name[] optional	The list of nodes in which the storage pool resides.
simulate		boolean optional	Simulate the creation of storage pool. If set to \"true\", new storage pool won't be created but returns the minimum allocation unit size of the storage pool that would have been created. Selected disk list would also be returned for the disk-count option. By default, simulate option is set to false.
storage-pool		string	Name of the storage pool to be created.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this storage-pool.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.
selected-allocation-unit-size		size optional	Minimum allocation unit size of the storage pool that would have been created.
selected-disks		disk-name[] optional	List of spare disks selected for the storage pool that would have been created.

Errno	Description
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	

storage-pool-delete

[top]

Delete the specified storage pool. A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
storage-pool		string	Name of the storage pool to be deleted.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-pool-disk-get-iter

[top]

This is a ZAPI used to iterate over all disks in storage pool. These disks are listed per Storage Pool

Input Name	Range	Type	Description
desired-attributes		storage-pool-disk-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-disk-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-disk-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-get-iter

[top]

This is a ZAPI used to iterate over all the storage pools in the cluster and retrieve attributes of individual storage pool.

Input Name	Range	Type	Description
desired-		storage-pool-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-reassign

[top]

Reassign capacity from one node to another node in storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
allocation-units	**[1..4]**	integer	The available capacity to be assigned in the form of count that is multiple of 'allocation-unit-size'. Available capacity can be found through API 'storage-pool-available-capacity-get-iter' where allocation unit size and total number of allocation units will be specified.
from-node		node-name	The node that owns the available capacity which needs to be re-assigned. The amount of available capacity owned by a Node can be determined using the fields 'allocation-units' and 'allocation-unit-size' from the 'storage-pool-available-capacity-get-iter' API. Capacity can be re-assigned only in multiples of 'allocation-unit-size'
storage-pool		string	The cluster-wide unique name of the storage pool.
to-node		node-name	The node to which the capacity will be assigned. To view the existing free space in the node, use 'storage-pool-available-capacity-get-iter'

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.

result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-pool-rename

[top]

Rename storage pool

Input Name	Range	Type	Description
new-name		storage-pool-name	New name of the storage pool.
storage-pool		string	The cluster-wide unique name of the storage pool.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **aggregate-autogrow-info**

[top]

Information of aggregates that will auto-grow

Name	Range	Type	Description
aggregate-names		aggr-name[] optional	The name of the aggregates that would auto-grow. Attributes: non-creatable, modifiable
aggregate-new-sizes		size[] optional	The new size of the aggregates in bytes after adding the disks to storage pool. Attributes: non-creatable, modifiable
aggregate-sizes		size[] optional	The current size of the aggregates in bytes. Attributes: non-creatable, modifiable

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **storage-pool-aggregate-info** [top]

Storage Pool Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of aggregate which has provisioned capacity from the storage pool. Attributes: key, non-creatable, non-modifiable
allocated-unit-count	**[0..2^32-1]**	integer optional	Number of Allocation Units assigned to the Aggregate. Attributes: non-creatable, non-modifiable
node		node-name optional	Node which is hosting the provisioned aggregate. Attributes: non-creatable, non-modifiable
original-owner		string optional	Node which is original owner of the provisioned Aggregate. Attributes: non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable
used-capacity		size optional	Capacity provisioned by aggregate from storage pool. Attributes: non-creatable, non-modifiable

Element definition: **storage-pool-available-capacity-info** [top]

Storage Pool Available Capacity Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allocation-unit-count	**[0..2^32-1]**	integer optional	The total number of units which can be allocated as spare capacity for aggregates. Size of these units are defined by field 'allocation-unit-size' Attributes: non-creatable, non-modifiable
allocation-unit-size		size optional	Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable
available-size		size optional	The total available capacity in bytes available on a given node in the storage pool. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node which has available capacity. Attributes: key, non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable
storage-type		string optional	The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values: • "ssd" - Solid-State Disk
syncmirror-pool		string optional	The name of the SyncMirror pool. Attributes: non-creatable, non-modifiable

Element definition: **storage-pool-disk-info**

[top]

Information of disk in Storage Pool When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disk		disk-name optional	Name of the disk Attributes: key, non-creatable, non-modifiable
disk-total-size		size optional	Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable
disk-type		string	Disk interface type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI, • "msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk,

		optional	• "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk
disk-usable-size		size optional	Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable

Element definition: **storage-pool-info**

[top]

Storage Pool Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allocation-unit-data-size-raid-dp		size optional	Data size that will be available after allocation unit is used for RAID-DP group. Attributes: non-creatable, non-modifiable
allocation-unit-data-size-raid-tec		size optional	Data size that will be available after allocation unit is used for RAID-TEC group. Attributes: non-creatable, non-modifiable
allocation-unit-data-size-raid4		size optional	Data size that will be available after allocation unit is used for RAID4 or RAID-EP group. Attributes: non-creatable, non-modifiable
allocation-unit-size		size optional	Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable
current-operation-job-id	**[0..2^64-1]**	integer optional	Job ID of the currently running operation on the storage pool. Attributes: non-creatable, non-modifiable
disk-count	**[0..2^32-1]**	integer optional	The number of disks that are part of the storage pool. Attributes: optional-for-create, non-modifiable
is-healthy		boolean optional	If \"true\", provisioning is allowed from the storage pool. Attributes: non-creatable, non-modifiable
nodes		node-name[] optional	The list of nodes in which the storage pool resides. Attributes: optional-for-create, non-modifiable
pool-state		storagepoolstate	State of the storage pool. Attributes: non-creatable, non-modifiable Possible values: • "normal" , • "degraded" ,

		optional	"creating" , • "deleting" , • "reassigning" , • "growing"
pool-total-size		size optional	The total size in bytes of the storage pool. Attributes: non-creatable, non-modifiable
pool-usable-size		size optional	The amount of usable size in bytes in the storage pool. Attributes: non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, required-for-create, non-modifiable
storage-type		string optional	The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values: • "ssd" - Solid-State Disk
unhealthy-reason		string optional	Specifies the reason why the storage pool is unhealthy. Attributes: non-creatable, non-modifiable

Element definition: **storage-pool-name** [top]

Name of the storage pool

[none]

Element definition: **aggr-name** [top]

Name of the aggregate

[none]

Element definition: **disk-name** [top]

Disk path name

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **storagepoolstate**

[top]

State of the Storage Pool Possible values:

- "normal" ,
- "degraded" ,
- "creating" ,
- "deleting" ,
- "reassigning" ,
- "growing"

[none]

APIs in Category: **storage-port**

storage-port-disable
storage-port-enable
storage-port-info-get
storage-port-info-get-iter
storage-port-rescan
storage-port-reset
storage-port-reset-device

This set of ZAPIs allows management of storage ports.

storage-port-disable

[top]

Disable a storage port

Input Name	Range	Type	Description
force		boolean	Force
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	
ESTORAGEPORTSTATUSNOTAVAILABLE	
ESTORAGEPORTALREADYOFFLINE	
ESTORAGEPORTDISKCURRENTLYSANITIZING	
ESTORAGEPORTLASTPATHTODISK	
ESTORAGEPORTINUSE	
ESTORAGEPORTNETWORKMODE	

storage-port-enable

[top]

Enable a storage port

Input Name	Range	Type	Description
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

Errno	Description
ESTORAGEPORTSTATUSNOTAVAILABLE	
ESTORAGEPORTNOTOFFLINE	
ESTORAGEPORTNETWORKMODE	

storage-port-info-get

[top]

Get information about a specified storage port.

Input Name	Range	Type	Description
desired-attributes		storage-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The cluster node where the storage port is located.
port		string	The name of the port. Example: '0a', '1b', etc.

Output Name	Range	Type	Description
attributes		storage-port-info	The attributes of the storage-port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-port-info-get-iter

[top]

Get information about one or more storage ports.

Input Name	Range	Type	Description
desired-attributes		storage-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-port object. All storage-port objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		storage-	

attributes-list		port-info[] optional	The list of attributes of storage-port objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-port objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-port-rescan

[top]

Rescan a storage port

Input Name	Range	Type	Description
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

storage-port-reset

[top]

Reset a storage port

Input Name	Range	Type	Description
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

storage-port-reset-device

[top]

Reset a device behind a storage port

Input Name	Range	Type	Description
bay-id		integer	Bay ID

		optional	
loop-id		integer optional	Loop ID
node		node-name	Node
port		string	Port
shelf-name		string optional	Shelf Name

Errno	Description
ESTORAGEPORTDEVOPFAILED	
ESTORAGEPORTDEVINVALID	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-port-info**

[top]

Storage port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
board-name		string optional	The board name of the adapter. Attributes: non-creatable, non-modifiable
cable-end-id		shelf-cable-end optional	The cable end identifier (end_0/end_1). Attributes: non-creatable, non-modifiable Possible values: • "end_0" - end 0, • "end_1" - end 1
cable-identifier		string optional	The cable identifier. Attributes: non-creatable, non-modifiable
cable-length		string optional	The cable length in meters. Attributes: non-creatable, non-modifiable
connection-		storage-port-connection-	The connection mode of the port (loop/point-to-point). Attributes: non-creatable, non-modifiable Possible values:

mode		mode optional	"unknown" - The port connection mode is unknown, • "loop" - Loop, • "point_to_point" - Point-to-point
connector-capabilities-array		connector-capabilities-info[] optional	Connector Capabilities information.
connector-part-number		string optional	The connector part number. Attributes: non-creatable, non-modifiable
connector-serial-number		string optional	The connector serial number. Attributes: non-creatable, non-modifiable
connector-technology		sas-connector-technology optional	The connector technology (passive-copper/active-copper/optical). Attributes: non-creatable, non-modifiable Possible values: • "active_copper" - Active Copper, • "passive_copper" - Passive Copper, • "optical" - Optical
connector-type		connector-type optional	The connector type (qsfp/qsfp-plus/mini-sas-hd/sfp). Attributes: non-creatable, non-modifiable Possible values: • "qsfp" - QSFP, • "qsfp_plus" - QSFP+, • "mini_sas_hd" - Mini-SAS HD, • "sfp" - SFP, • "qsfp28" - QSFP28
connector-vendor		string optional	The connector vendor. Attributes: non-creatable, non-modifiable
corrective-action		string optional	The corrective action to perform, in case of a port error. Attributes: non-creatable, non-modifiable
date-code		string optional	The date code of the adapter. Attributes: non-creatable, non-modifiable
description		string optional	A detailed description of the port. Attributes: non-creatable, non-modifiable
device-type		string optional	The device type. Attributes: non-creatable, non-modifiable
error-severity		storage-shelf-error-severity optional	The severity of the port error, in case of a port error. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The error severity is unknown, • "notice" - A normal-priority message, does not indicate a fault, • "warning" - A high-priority warning message, does not indicate a fault, • "error" - A fault condition which is not immediately fatal but requires immediate attention, • "critical" - A critical fault condition, typically disruptive
error-text		string optional	The error text of the port error, in case of a port error. Attributes: non-creatable, non-modifiable
		storage-port-	The error type of the port error, in case of a port error. Example: 'online-degraded'. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The port status is unknown,

error-type		status optional	• "online" - The port is online, • "online_degraded" - The port is online, but in a degraded state, • "offline" - The port is offline, • "link_down" - The link connected to the port is down
firmware-rev		string optional	The firmware revision running on the adapter. Attributes: non-creatable, non-modifiable
is-dedicated		boolean optional	Is Dedicated Storage Port? Attributes: non-creatable, non-modifiable
mac-address		string optional	The MAC address of the RDMA port. Attributes: non-creatable, non-modifiable
mfg-part-number		string optional	The manufacturer part number of the adapter. Attributes: non-creatable, non-modifiable
mode		storage-port-mode optional	The mode of the port (storage/network). Attributes: non-creatable, modifiable Possible values: • "storage" , • "network"
node		node-name optional	The cluster node where the storage port is located. Attributes: key, non-creatable, non-modifiable
nvdata-rev		string optional	The NVDATA revision running on the adapter. Attributes: non-creatable, non-modifiable
part-number		string optional	The part number of the adapter. Attributes: non-creatable, non-modifiable
phys		phy-info[] optional	Returns SAS port phy information.
port		string optional	The name of the port. Example: '0a', '1b', etc. Attributes: key, non-creatable, non-modifiable
port-speed		storage-port-speed optional	The link speed of the port in Gb/s. Attributes: non-creatable, non-modifiable Possible values: • "0" - 0 Gb/s, • "1" - 1 Gb/s, • "1_5" - 1.5 Gb/s, • "2" - 2 Gb/s, • "3" - 3 Gb/s, • "4" - 4 Gb/s, • "6" - 6 Gb/s, • "8" - 8 Gb/s, • "10" - 10 Gb/s, • "12" - 12 Gb/s, • "16" - 16 Gb/s, • "32" - 32 Gb/s, • "2_5" - 2.5 Gb/s, • "5" - 5 Gb/s, • "14" - 14 Gb/s, • "25" - 25 Gb/s, • "40" - 40 Gb/s, • "100" - 100 Gb/s
port-type		storage-port-type optional	The type of the port (SAS/FC) Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The port type is unknown, • "sas" - SAS, • "fc" - FC, • "enet" - ENET

serial-number		string optional	The serial number of the adapter. Attributes: non-creatable, non-modifiable
state		storage-port-state optional	The configured state of the port (enabled/disabled). Attributes: non-creatable, non-modifiable Possible values: • "enabled" , • "disabled" , • "enable_pending" , • "disable_pending"
status		storage-port-status optional	The operational status of the port (online/online-degraded/offline/link-down). Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The port status is unknown, • "online" - The port is online, • "online_degraded" - The port is online, but in a degraded state, • "offline" - The port is offline, • "link_down" - The link connected to the port is down
vlan-id	**[30..31]**	integer optional	VLAN ID Attributes: non-creatable, non-modifiable
wwn		string optional	The World Wide Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable
wwnn		string optional	The World Wide Node Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable
wwpn		string optional	The World Wide Port Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable

Element definition: **connector-capabilities-info**

[top]

Connector Capabilities information.

Name	Range	Type	Description
connector-capabilities	**[0..2^32-1]**	integer optional	The connector capabilities in Gb/s. Attributes: non-creatable, non-modifiable

Element definition: **connector-type**

[top]

QSFP|QSFP+|QSFP28|Mini-SAS HD|SFP Possible values:

- "qsfp" - QSFP,
- "qsfp_plus" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "sfp" - SFP,
- "qsfp28" - QSFP28

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **phy-info**

[top]

Returns SAS port phy information.

Name	Range	Type	Description
phy-id	**[0..2^32-1]**	integer optional	The ID of the phy (0-3). Attributes: non-creatable, non-modifiable
phy-speed		storage-port-speed optional	The link speed of the phy in Gb/s. Attributes: non-creatable, non-modifiable Possible values: • "0" - 0 Gb/s, • "1" - 1 Gb/s, • "1_5" - 1.5 Gb/s, • "2" - 2 Gb/s, • "3" - 3 Gb/s, • "4" - 4 Gb/s, • "6" - 6 Gb/s, • "8" - 8 Gb/s, • "10" - 10 Gb/s, • "12" - 12 Gb/s, • "16" - 16 Gb/s, • "32" - 32 Gb/s, • "2_5" - 2.5 Gb/s, • "5" - 5 Gb/s, • "14" - 14 Gb/s, • "25" - 25 Gb/s, • "40" - 40 Gb/s, • "100" - 100 Gb/s
phy-state		enable optional	The state of the phy (enabled/disabled). Attributes: non-creatable, non-modifiable
phy-status		storage-port-phy-status optional	The operational status of the phy (unknown/online/offline/speed-negotiation-failed/sata-oob-failed). Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The phy status is unknown, • "online" - The phy is online, • "offline" - The phy is offline, • "speed_negotiation_failed" - The speed negotiation on this phy failed, • "sata_oob_failed" - The SATA OOB on this port failed

Element definition: **sas-connector-technology** [top]

active-copper|passive-copper|optical Possible values:

- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[none]

Element definition: **shelf-cable-end** [top]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[none]

Element definition: **storage-port-connection-mode** [top]

Unknown|Loop|Point-to-point Possible values:

- "unknown" - The port connection mode is unknown,
- "loop" - Loop,
- "point_to_point" - Point-to-point

[none]

Element definition: **storage-port-mode** [top]

storage|network Possible values:

- "storage" ,
- "network"

[none]

Element definition: **storage-port-speed** [top]

0|1|1.5|2|2.5|3|4|5|6|8|10|12|14|16|25|32|40|100 Possible values:

- "0" - 0 Gb/s,
- "1" - 1 Gb/s,
- "1_5" - 1.5 Gb/s,
- "2" - 2 Gb/s,
- "3" - 3 Gb/s,
- "4" - 4 Gb/s,
- "6" - 6 Gb/s,
- "8" - 8 Gb/s,
- "10" - 10 Gb/s,
- "12" - 12 Gb/s,
- "16" - 16 Gb/s,
- "32" - 32 Gb/s,
- "2_5" - 2.5 Gb/s,
- "5" - 5 Gb/s,
- "14" - 14 Gb/s,
- "25" - 25 Gb/s,
- "40" - 40 Gb/s,
- "100" - 100 Gb/s

[none]

Element definition: **storage-port-state**

[top]

enabled|disabled|enable-pending|disable-pending Possible values:

- "enabled" ,
- "disabled" ,
- "enable_pending" ,
- "disable_pending"

[none]

Element definition: **storage-port-status**

[top]

unknown|online|online-degraded|offline|link-down Possible values:

- "unknown" - The port status is unknown,
- "online" - The port is online,
- "online_degraded" - The port is online, but in a degraded state,
- "offline" - The port is offline,
- "link_down" - The link connected to the port is down

[none]

Element definition: **storage-port-type**

[top]

Unknown|SAS|FC|ENET Possible values:

- "unknown" - The port type is unknown,
- "sas" - SAS,
- "fc" - FC,
- "enet" - ENET

[none]

Element definition: **storage-shelf-error-severity**

[top]

unknown|notice|warning|error|critical Possible values:

- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[none]

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **storage-port-phy-status**

[top]

unknown|online|offline|speed-negotiation-failed|sata-oob-failed Possible values:

- "unknown" - The phy status is unknown,
- "online" - The phy is online,
- "offline" - The phy is offline,
- "speed_negotiation_failed" - The speed negotiation on this phy failed,
- "sata_oob_failed" - The SATA OOB on this port failed

[none]

APIs in Category: **storage-shelf**

storage-shelf-acp-configure
storage-shelf-acp-firmware-update
storage-shelf-acp-get
storage-shelf-acp-get-iter
storage-shelf-acp-module-get
storage-shelf-acp-module-get-iter
storage-shelf-drawer-get
storage-shelf-drawer-get-iter
storage-shelf-drawer-phy-get
storage-shelf-drawer-phy-get-iter
storage-shelf-drawer-slot-get
storage-shelf-drawer-slot-get-iter
storage-shelf-firmware-update
storage-shelf-firmware-update-end
storage-shelf-firmware-update-init-abort
storage-shelf-info-get
storage-shelf-port-get
storage-shelf-port-get-iter
storage-shelf-resilver-init
storage-shelf-resilver-list-results
storage-shelf-resilver-list-results-iter
storage-shelf-set-time

This set of ZAPIs allows management of cluster-wide storage shelves.

storage-shelf-acp-configure

[Back]

Configure connection.

Input Name	Range	Type	Description
channel		storage-shelf-acp-channel	The channel to which the connection needs to be configured (in-band/out-of-band). Possible values: • "out_of_band" - The connection type is out-of-band, • "in_band" - The connection type is in-band.
is-enabled		bool	The state to which the connection needs to be configured (true/false).
netmask		ip-address	The netmask that the configuration will use to setup connection (type: IPv4).
subnet		ip-address	The subnet that the configuration will use to setup connection (type: IPv4).

Errno	Description
ESTORAGEACPBUILDCKWRENCHPORT	
ESTORAGEINVALIDENUMBER	
ESTORAGEINVALIDIDENTIFIER	
ESTORAGEACPCONFIGCONFLICTERROR	
ESTORAGEACPPSHOPSATENPROCERRR	
STORAGEACPACPPBBOOTING	
STORAGEACPBUILPOWERDOPF	
STORAGEACPCHANNELUNSPECIFIED	

storage-shelf-acp-firmware-update

[Back]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

Input Name	Range	Type	Description
module-name		string	The module name. Example: 1.10.A
node-name		node-name	The node that has alternate control path configured

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-acp-get

[Back]

Return the connectivity of the node. A return status of Full-Connectivity means, that the connection is properly configured and fully working. Any other status means that an error is seen.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-acp-connection	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node that has alternate control path configured.

Output Name	Range	Type	Description
attributes		storage-shelf-acp-connection	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-acp-module-get

[Back]

return the first module

Input Name	Range	Type	Description
desired-attributes		storage-shelf-acp-module	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node that has alternate control path configured

Output Name	Range	Type	Description
attributes		storage-shelf-acp-module	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-acp-module-get-iter

[Back]

return the module list

Input Name	Range	Type	Description
desired-attributes		storage-shelf-acp-module	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-acp-module	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-acp-module	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-drawer-get

[Back]

Get drawer information about a specified storage shelf drawer.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
drawer	[0..2^32-1]	integer	Drawer Number
shelf		string	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-drawer-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-drawer-get-iter

[Back]

Get drawer information about one or more storage shelf drawers.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-drawer-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-drawer-info	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-drawer-phy-get

[Back]

Get phy information about a specified storage shelf drawer phy.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-phy-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
drawer	[0..2^32-1]	integer	Drawer Number
phy	[0..2^32-1]	integer	PHY Number
shelf		string	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-drawer-phy-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-drawer-phy-get-iter

[Back]

Get phy information about one or more storage shelf drawer phys.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-phy-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-drawer-phy-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-drawer-phy-info	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-drawer-slot-get

[Back]

Get a map between bay number and drawer/slot number.

Input Name	Range	Type	Description
bay	[0..2^32-1]	integer	Bay Number
desired-attributes		storage-shelf-drawer-slot-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
shelf		string	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-drawer-slot-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-drawer-slot-get-iter

[Back]

Get a map between bay number and drawer/slot number.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-slot-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-drawer-slot-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-drawer-slot-info	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-firmware-update

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

Input Name	Range	Type	Description
module-type		shelf-module-type[] optional	All the shelves in the cluster with this module type will be updated. Possible values: • "ot_fpr" - ATTPCIE Module Type, • "ioms" - IOM3 Module Type, • "iom3" - IOM3 Module Type, • "iom6" - IOM6 Module Type, • "iom6e" - IOM6E Module Type, • "psm12" - PSM12 Module Type, • "iom12" - IOM12 Module Type, • "iom12f" - IOM12F Module Type, • "iom12f2f" - NSM100 Module Type, • "iom12f2e" - NSM100B Module Type, • "iom9e" - NSM60 Module Type, • "iom12g" - IOM12G Module Type, • "iom12fe" - NSM106 Module Type
shelf	string optional	Shelf Name of the shelf that needs to be updated.	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-firmware-update-info-get

Storage shelf firmware update status record.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-firmware-update-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node

Output Name	Range	Type	Description
attributes		storage-shelf-firmware-update-info	The attributes of the storage-shelf-firmware-update.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-firmware-update-info-get-iter

Storage shelf firmware update status records.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-firmware-update-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-firmware-update-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware-update object. All storage-shelf-firmware-update objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-firmware-update-info[] optional	The list of attributes of storage-shelf-firmware-update objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf-firmware-update objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-info-get

Get shelf information about a specified storage shelf.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
shelf		string optional	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-info-get-iter

Get shelf information about one or more storage shelves.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-info[] optional	The list of attributes of storage-shelf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-location-led-get

Get the Location LED status of a shelf

Input Name	Range	Type	Description
desired-attributes		storage-shelf-location-led-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
shelf-name		string optional	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-location-led-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-location-led-get-iter

Get the Location LED status of one or more shelves

Input Name	Range	Type	Description
desired-attributes		storage-shelf-location-led-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-location-led-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-location-led-info[] optional	The list of attributes of storage-shelf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

storage-shelf-location-led-modify

Modify the state of the Location LED

Input Name	Range	Type	Description
led-status		storage-shelf-led-status optional	Location LED Possible values: • "off", • "on", • "unsupported"
shelf-name		string optional	Shelf Name

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

storage-shelf-location-led-modify-iter

Modify the state of the Location LED of one or more shelves

Input Name	Range	Type	Description
attributes		storage-shelf-location-led-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple storage-shelf objects match a given query. If set to true, the API will continue modifying the next matching storage-shelf even when modification of a previous storage-shelf fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching storage-shelf even when the modification of a previous matching storage-shelf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		storage-shelf-location-led-info	If modifying a specific storage-shelf, this input element must specify all keys. If modifying storage-shelf objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of storage-shelf objects (just keys) that were not modified due to some error. If set to false, the list of storage-shelf objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of storage-shelf objects (just keys) that were successfully updated. If set to false, the list of storage-shelf objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		storage-shelf-location-led-modify-iter-info[] optional	Information about storage-shelf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching storage-shelf objects to be modified.
num-failed	[0..2^32-1]	integer optional	Number of storage-shelf objects that matched the query, but were not modified due to some error.
num-succeeded	[0..2^32-1]	integer optional	The number of storage-shelf objects that matched the query and were successfully updated.
success-list		storage-shelf-location-led-modify-iter-info[] optional	The storage-shelf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

storage-shelf-port-get-iter

Get information about one or more storage shelf ports.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-port-info[] optional	The list of attributes of storage-shelf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **channel-config-enum**

out-of-band/in-band Possible values:

- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[name]

Element definition: **filer-id**

Filer UUID

[name]

Element definition: **ip-address**

IPv4 and IPv6 address

[name]

Element definition: **node-name**

Query

The node's name

[none]

Element definition: **shelf-module-type**

Query

all|ns3-em8-f|ns3|ns4|ns4ardwr|ns4-k22|ns4-k24|ns4-k26|ns4-k28|ns4-k30|ns4-k32|ns4-k34|ns4-k36|ns4-k38|ns4-k40|ns4-k42|ns4-k44|ns4-k46|ns4-k48|ns4-k50|ns4-k52|ns4-k54|ns4-k56|ns4-k58|ns4-k60|ns4-k62|ns4-k64|ns4-k66|ns4-k68|ns4-k70|ns4-k72|ns4-k74|ns4-k76|ns4-k78|ns4-k80|ns4-k82|ns4-k84|ns4-k86|ns4-k88|ns4-k90|ns4-k92|ns4-k94|ns4-k96|ns4-k98|ns4-k100|ns4-k102|ns4-k104|ns4-k106|ns4-k108|ns4-k110|ns4-k112|ns4-k114|ns4-k116|ns4-k118|ns4-k120|ns4-k122|ns4-k124|ns4-k126|ns4-k128|ns4-k130|ns4-k132|ns4-k134|ns4-k136|ns4-k138|ns4-k140|ns4-k142|ns4-k144|ns4-k146|ns4-k148|ns4-k150|ns4-k152|ns4-k154|ns4-k156|ns4-k158|ns4-k160|ns4-k162|ns4-k164|ns4-k166|ns4-k168|ns4-k170|ns4-k172|ns4-k174|ns4-k176|ns4-k178|ns4-k180|ns4-k182|ns4-k184|ns4-k186|ns4-k188|ns4-k190|ns4-k192|ns4-k194|ns4-k196|ns4-k198|ns4-k200|ns4-k202|ns4-k204|ns4-k206|ns4-k208|ns4-k210|ns4-k212|ns4-k214|ns4-k216|ns4-k218|ns4-k220|ns4-k222|ns4-k224|ns4-k226|ns4-k228|ns4-k230|ns4-k232|ns4-k234|ns4-k236|ns4-k238|ns4-k240|ns4-k242|ns4-k244|ns4-k246|ns4-k248|ns4-k250|ns4-k252|ns4-k254|ns4-k256|ns4-k258|ns4-k260|ns4-k262|ns4-k264|ns4-k266|ns4-k268|ns4-k270|ns4-k272|ns4-k274|ns4-k276|ns4-k278|ns4-k280|ns4-k282|ns4-k284|ns4-k286|ns4-k288|ns4-k290|ns4-k292|ns4-k294|ns4-k296|ns4-k298|ns4-k300|ns4-k302|ns4-k304|ns4-k306|ns4-k308|ns4-k310|ns4-k312|ns4-k314|ns4-k316|ns4-k318|ns4-k320|ns4-k322|ns4-k324|ns4-k326|ns4-k328|ns4-k330|ns4-k332|ns4-k334|ns4-k336|ns4-k338|ns4-k340|ns4-k342|ns4-k344|ns4-k346|ns4-k348|ns4-k350|ns4-k352|ns4-k354|ns4-k356|ns4-k358|ns4-k360|ns4-k362|ns4-k364|ns4-k366|ns4-k368|ns4-k370|ns4-k372|ns4-k374|ns4-k376|ns4-k378|ns4-k380|ns4-k382|ns4-k384|ns4-k386|ns4-k388|ns4-k390|ns4-k392|ns4-k394|ns4-k396|ns4-k398|ns4-k400|ns4-k402|ns4-k404|ns4-k406|ns4-k408|ns4-k410|ns4-k412|ns4-k414|ns4-k416|ns4-k418|ns4-k420|ns4-k422|ns4-k424|ns4-k426|ns4-k428|ns4-k430|ns4-k432|ns4-k434|ns4-k436|ns4-k438|ns4-k440|ns4-k442|ns4-k444|ns4-k446|ns4-k448|ns4-k450|ns4-k452|ns4-k454|ns4-k456|ns4-k458|ns4-k460|ns4-k462|ns4-k464|ns4-k466|ns4-k468|ns4-k470|ns4-k472|ns4-k474|ns4-k476|ns4-k478|ns4-k480|ns4-k482|ns4-k484|ns4-k486|ns4-k488|ns4-k490|ns4-k492|ns4-k494|ns4-k496|ns4-k498|ns4-k500|ns4-k502|ns4-k504|ns4-k506|ns4-k508|ns4-k510|ns4-k512|ns4-k514|ns4-k516|ns4-k518|ns4-k520|ns4-k522|ns4-k524|ns4-k526|ns4-k528|ns4-k530|ns4-k532|ns4-k534|ns4-k536|ns4-k538|ns4-k540|ns4-k542|ns4-k544|ns4-k546|ns4-k548|ns4-k550|ns4-k552|ns4-k554|ns4-k556|ns4-k558|ns4-k560|ns4-k562|ns4-k564|ns4-k566|ns4-k568|ns4-k570|ns4-k572|ns4-k574|ns4-k576|ns4-k578|ns4-k580|ns4-k582|ns4-k584|ns4-k586|ns4-k588|ns4-k590|ns4-k592|ns4-k594|ns4-k596|ns4-k598|ns4-k600|ns4-k602|ns4-k604|ns4-k606|ns4-k608|ns4-k610|ns4-k612|ns4-k614|ns4-k616|ns4-k618|ns4-k620|ns4-k622|ns4-k624|ns4-k626|ns4-k628|ns4-k630|ns4-k632|ns4-k634|ns4-k636|ns4-k638|ns4-k640|ns4-k642|ns4-k644|ns4-k646|ns4-k648|ns4-k650|ns4-k652|ns4-k654|ns4-k656|ns4-k658|ns4-k660|ns4-k662|ns4-k664|ns4-k666|ns4-k668|ns4-k670|ns4-k672|ns4-k674|ns4-k676|ns4-k678|ns4-k680|ns4-k682|ns4-k684|ns4-k686|ns4-k688|ns4-k690|ns4-k692|ns4-k694|ns4-k696|ns4-k698|ns4-k700|ns4-k702|ns4-k704|ns4-k706|ns4-k708|ns4-k710|ns4-k712|ns4-k714|ns4-k716|ns4-k718|ns4-k720|ns4-k722|ns4-k724|ns4-k726|ns4-k728|ns4-k730|ns4-k732|ns4-k734|ns4-k736|ns4-k738|ns4-k740|ns4-k742|ns4-k744|ns4-k746|ns4-k748|ns4-k750|ns4-k752|ns4-k754|ns4-k756|ns4-k758|ns4-k760|ns4-k762|ns4-k764|ns4-k766|ns4-k768|ns4-k770|ns4-k772|ns4-k774|ns4-k776|ns4-k778|ns4-k780|ns4-k782|ns4-k784|ns4-k786|ns4-k788|ns4-k790|ns4-k792|ns4-k794|ns4-k796|ns4-k798|ns4-k800|ns4-k802|ns4-k804|ns4-k806|ns4-k808|ns4-k810|ns4-k812|ns4-k814|ns4-k816|ns4-k818|ns4-k820|ns4-k822|ns4-k824|ns4-k826|ns4-k828|ns4-k830|ns4-k832|ns4-k834|ns4-k836|ns4-k838|ns4-k840|ns4-k842|ns4-k844|ns4-k846|ns4-k848|ns4-k850|ns4-k852|ns4-k854|ns4-k856|ns4-k858|ns4-k860|ns4-k862|ns4-k864|ns4-k866|ns4-k868|ns4-k870|ns4-k872|ns4-k874|ns4-k876|ns4-k878|ns4-k880|ns4-k882|ns4-k884|ns4-k886|ns4-k888|ns4-k890|ns4-k892|ns4-k894|ns4-k896|ns4-k898|ns4-k900|ns4-k902|ns4-k904|ns4-k906|ns4-k908|ns4-k910|ns4-k912|ns4-k914|ns4-k916|ns4-k918|ns4-k920|ns4-k922|ns4-k924|ns4-k926|ns4-k928|ns4-k930|ns4-k932|ns4-k934|ns4-k936|ns4-k938|ns4-k940|ns4-k942|ns4-k944|ns4-k946|ns4-k948|ns4-k950|ns4-k952|ns4-k954|ns4-k956|ns4-k958|ns4-k960|ns4-k962|ns4-k964|ns4-k966|ns4-k968|ns4-k970|ns4-k972|ns4-k974|ns4-k976|ns4-k978|ns4-k980|ns4-k982|ns4-k984|ns4-k986|ns4-k988|ns4-k990|ns4-k992|ns4-k994|ns4-k996|ns4-k998|ns4-k1000|ns4-k1002|ns4-k1004|ns4-k1006|ns4-k1008|ns4-k1010|ns4-k1012|ns4-k1014|ns4-k1016|ns4-k1018|ns4-k1020|ns4-k1022|ns4-k1024|ns4-k1026|ns4-k1028|ns4-k1030|ns4-k1032|ns4-k1034|ns4-k1036|ns4-k1038|ns4-k1040|ns4-k1042|ns4-k1044|ns4-k1046|ns4-k1048|ns4-k1050|ns4-k1052|ns4-k1054|ns4-k1056|ns4-k1058|ns4-k1060|ns4-k1062|ns4-k1064|ns4-k1066|ns4-k1068|ns4-k1070|ns4-k1072|ns4-k1074|ns4-k1076|ns4-k1078|ns4-k1080|ns4-k1082|ns4-k1084|ns4-k1086|ns4-k1088|ns4-k1090|ns4-k1092|ns4-k1094|ns4-k1096|ns4-k1098|ns4-k1100|ns4-k1102|ns4-k1104|ns4-k1106|ns4-k1108|ns4-k1110|ns4-k1112|ns4-k1114|ns4-k1116|ns4-k1118|ns4-k1120|ns4-k1122|ns4-k1124|ns4-k1126|ns4-k1128|ns4-k1130|ns4-k1132|ns4-k1134|ns4-k1136|ns4-k1138|ns4-k1140|ns4-k1142|ns4-k1144|ns4-k1146|ns4-k1148|ns4-k1150|ns4-k1152|ns4-k1154|ns4-k1156|ns4-k1158|ns4-k1160|ns4-k1162|ns4-k1164|ns4-k1166|ns4-k1168|ns4-k1170|ns4-k1172|ns4-k1174|ns4-k1176|ns4-k1178|ns4-k1180|ns4-k1182|ns4-k1184|ns4-k1186|ns4-k1188|ns4-k1190|ns4-k1192|ns4-k1194|ns4-k1196|ns4-k1198|ns4-k1200|ns4-k1202|ns4-k1204|ns4-k1206|ns4-k1208|ns4-k1210|ns4-k1212|ns4-k1214|ns4-k1216|ns4-k1218|ns4-k1220|ns4-k1222|ns4-k1224|ns4-k1226|ns4-k1228|ns4-k1230|ns4-k1232|ns4-k1234|ns4-k1236|ns4-k1238|ns4-k1240|ns4-k1242|ns4-k1244|ns4-k1246|ns4-k1248|ns4-k1250|ns4-k1252|ns4-k1254|ns4-k1256|ns4-k1258|ns4-k1260|ns4-k1262|ns4-k1264|ns4-k1266|ns4-k1268|ns4-k1270|ns4-k1272|ns4-k1274|ns4-k1276|ns4-k1278|ns4-k1280|ns4-k1282|ns4-k1284|ns4-k1286|ns4-k1288|ns4-k1290|ns4-k1292|ns4-k1294|ns4-k1296|ns4-k1298|ns4-k1300|ns4-k1302|ns4-k1304|ns4-k1306|ns4-k1308|ns4-k1310|ns4-k1312|ns4-k1314|ns4-k1316|ns4-k1318|ns4-k1320|ns4-k1322|ns4-k1324|ns4-k1326|ns4-k1328|ns4-k1330|ns4-k1332|ns4-k1334|ns4-k1336|ns4-k1338|ns4-k1340|ns4-k1342|ns4-k1344|ns4-k1346|ns4-k1348|ns4-k1350|ns4-k1352|ns4-k1354|ns4-k1356|ns4-k1358|ns4-k1360|ns4-k1362|ns4-k1364|ns4-k1366|ns4-k1368|ns4-k1370|ns4-k1372|ns4-k1374|ns4-k1376|ns4-k1378|ns4-k1380|ns4-k1382|ns4-k1384|ns4-k1386|ns4-k1388|ns4-k1390|ns4-k1392|ns4-k1394|ns4-k1396|ns4-k1398|ns4-k1400|ns4-k1402|ns4-k1404|ns4-k1406|ns4-k1408|ns4-k1410|ns4-k1412|ns4-k1414|ns4-k1416|ns4-k1418|ns4-k1420|ns4-k1422|ns4-k1424|ns4-k1426|ns4-k1428|ns4-k1430|ns4-k1432|ns4-k1434|ns4-k1436|ns4-k1438|ns4-k1440|ns4-k1442|ns4-k1444|ns4-k1446|ns4-k1448|ns4-k1450|ns4-k1452|ns4-k1454|ns4-k1456|ns4-k1458|ns4-k1460|ns4-k1462|ns4-k1464|ns4-k1466|ns4-k1468|ns4-k1470|ns4-k1472|ns4-k1474|ns4-k1476|ns4-k1478|ns4-k1480|ns4-k1482|ns4-k1484|ns4-k1486|ns4-k1488|ns4-k1490|ns4-k1492|ns4-k1494|ns4-k1496|ns4-k1498|ns4-k1500|ns4-k1502|ns4-k1504|ns4-k1506|ns4-k1508|ns4-k1510|ns4-k1512|ns4-k1514|ns4-k1516|ns4-k1518|ns4-k1520|ns4-k1522|ns4-k1524|ns4-k1526|ns4-k1528|ns4-k1530|ns4-k1532|ns4-k1534|ns4-k1536|ns4-k1538|ns4-k1540|ns4-k1542|ns4-k1544|ns4-k1546|ns4-k1548|ns4-k1550|ns4-k1552|ns4-k1554|ns4-k1556|ns4-k1558|ns4-k1560|ns4-k1562|ns4-k1564|ns4-k1566|ns4-k1568|ns4-k1570|ns4-k1572|ns4-k1574|ns4-k1576|ns4-k1578|ns4-k1580|ns4-k1582|ns4-k1584|ns4-k1586|ns4-k1588|ns4-k1590|ns4-k1592|ns4-k1594|ns4-k1596|ns4-k1598|ns4-k1600|ns4-k1602|ns4-k1604|ns4-k1606|ns4-k1608|ns4-k1610|ns4-k1612|ns4-k1614|ns4-k1616|ns4-k1618|ns4-k1620|ns4-k1622|ns4-k1624|ns4-k1626|ns4-k1628|ns4-k1630|ns4-k1632|ns4-k1634|ns4-k1636|ns4-k1638|ns4-k1640|ns4-k1642|ns4-k1644|ns4-k1646|ns4-k1648|ns4-k1650|ns4-k1652|ns4-k1654|ns4-k1656|ns4-k1658|ns4-k1660|ns4-k1662|ns4-k1664|ns4-k1666|ns4-k1668|ns4-k1670|ns4-k1672|ns4-k1674|ns4-k1676|ns4-k1678|ns4-k1680|ns4-k1682|ns4-k1684|ns4-k1686|ns4-k1688|ns4-k1690|ns4-k1692|ns4-k1694|ns4-k1696|ns4-k1698|ns4-k1700|ns4-k1702|ns4-k1704|ns4-k1706|ns4-k1708|ns4-k1710|ns4-k1712|ns4-k1714|ns4-k1716|ns4-k1718|ns4-k1720|ns4-k1722|ns4-k1724|ns4-k1726|ns4-k1728|ns4-k1730|ns4-k1732|ns4-k1734|ns4-k1736|ns4-k1738|ns4-k1740|ns4-k1742|ns4-k1744|ns4-k1746|ns4-k1748|ns4-k1750|ns4-k1752|ns4-k1754|ns4-k1756|ns4-k1758|ns4-k1760|ns4-k1762|ns4-k1764|ns4-k1766|ns4-k1768|ns4-k1770|ns4-k1772|ns4-k1774|ns4-k1776|ns4-k1778|ns4-k1780|ns4-k1782|ns4-k1784|ns4-k1786|ns4-k1788|ns4-k1790|ns4-k1792|ns4-k1794|ns4-k1796|ns4-k1798|ns4-k1800|ns4-k1802|ns4-k1804|ns4-k1806|ns4-k1808|ns4-k1810|ns4-k1812|ns4-k1814|ns4-k1816|ns4-k1818|ns4-k1820|ns4-k1822|ns4-k1824|ns4-k1826|ns4-k1828|ns4-k1830|ns4-k1832|ns4-k1834|ns4-k1836|ns4-k1838|ns4-k1840|ns4-k1842|ns4-k1844|ns4-k1846|ns4-k1848|ns4-k1850|ns4-k1852|ns4-k1854|ns4-k1856|ns4-k1858|ns4-k1860|ns4-k1862|ns4-k1864|ns4-k1866|ns4-k1868|ns4-k1870|ns4-k1872|ns4-k1874|ns4-k1876|ns4-k1878|ns4-k1880|ns4-k1882|ns4-k1884|ns4-k1886|ns4-k1888|ns4-k1890|ns4-k1892|ns4-k1894|ns4-k1896|ns4-k1898|ns4-k1900|ns4-k1902|ns4-k1904|ns4-k1906|ns4-k1908|ns4-k1910|ns4-k1912|ns4-k1914|ns4-k1916|ns4-k1918|ns4-k1920|ns4-k1922|ns4-k1924|ns4-k1926|ns4-k1928|ns4-k1930|ns4-k1932|ns4-k1934|ns4-k1936|ns4-k1938|ns4-k1940|ns4-k1942|ns4-k1944|ns4-k1946|ns4-k1948|ns4-k1950|ns4-k1952|ns4-k1954|ns4-k1956|ns4-k1958|ns4-k1960|ns4-k1962|ns4-k1964|ns4-k1966|ns4-k1968|ns4-k1970|ns4-k1972|ns4-k1974|ns4-k1976|ns4-k1978|ns4-k1980|ns4-k1982|ns4-k1984|ns4-k1986|ns4-k1988|ns4-k1990|ns4-k1992|ns4-k1994|ns4-k1996|ns4-k1998|ns4-k2000|ns4-k2002|ns4-k2004|ns4-k2006|ns4-k2008|ns4-k2010|ns4-k2012|ns4-k2014|ns4-k2016|ns4-k2018|ns4-k2020|ns4-k2022|ns4-k2024|ns4-k2026|ns4-k2028|ns4-k2030|ns4-k2032|ns4-k2034|ns4-k2036|ns4-k2038|ns4-k2040|ns4-k2042|ns4-k2044|ns4-k2046|ns4-k2048|ns4-k2050|ns4-k2052|ns4-k2054|ns4-k2056|ns4-k2058|ns4-k2060|ns4-k2062|ns4-k2064|ns4-k2066|ns4-k2068|ns4-k2070|ns4-k2072|ns4-k2074|ns4-k2076|ns4-k2078|ns4-k2080|ns4-k2082|ns4-k2084|ns4-k2086|ns4-k2088|ns4-k2090|ns4-k2092|ns4-k2094|ns4-k2096|ns4-k2098|ns4-k2100|ns4-k2102|ns4-k2104|ns4-k2106|ns4-k2108|ns4-k2110|ns4-k2112|ns4-k2114|ns4-k2116|ns4-k2118|ns4-k2120|ns4-k2122|ns4-k2124|ns4-k2126|ns4-k2128|ns4-k2130|ns4-k2132|ns4-k2134|ns4-k2136|ns4-k2138|ns4-k2140|ns4-k2142|ns4-k2144|ns4-k2146|ns4-k2148|ns4-k2150|ns4-k2152|ns4-k2154|ns4-k2156|ns4-k2158|ns4-k2160|ns4-k2162|ns4-k2164|ns4-k2166|ns4-k2168|ns4-k2170|ns4-k2172|ns4-k2174|ns4-k2176|ns4-k2178|ns4-k2180|ns4-k2182|ns4-k2184|ns4-k2186|ns4-k2188|ns4-k2190|ns4-k2192|ns4-k2194|ns4-k2196|ns4-k2198|ns4-k2200|ns4-k2202|ns4-k2204|ns4-k2206|ns4-k2208|ns4-k2210|ns4-k2212|ns4-k2214|ns4-k2216|ns4-k2218|ns4-k2220|ns4-k2222|ns4-k2224|ns4-k2226|ns4-k2228|ns4-k2230|ns4-k2232|ns4-k2234|ns4-k2236|ns4-k2238|ns4-k2240|ns4-k2242|ns4-k2244|ns4-k2246|ns4-k2248|ns4-k2250|ns4-k2252|ns4-k2254|ns4-k2256|ns4-k2258|ns4-k2260|ns4-k2262|ns4-k2264|ns4-k2266|ns4-k2268|ns4-k2270|ns4-k2272|ns4-k2274|ns4-k2276|ns4-k2278|ns4-k2280|ns4-k2282|ns4-k2284|ns4-k2286|ns4-k2288|ns4-k2290|ns4-k2292|ns4-k2294|ns4-k2296|ns4-k2298|ns4-k2300|ns4-k2302|ns4-k2304|ns4-k2306|ns4-k2308|ns4-k2310|ns4-k2312|ns4-k2314|ns4-k2316|ns4-k2318|ns4-k2320|ns4-k2322|ns4-k2324|ns4-k2326|ns4-k2328|ns4-k2330|ns4-k2332|ns4-k2334|ns4-k2336|ns4-k2338|ns4-k2340|ns4-k2342|ns4-k2344|ns4-k2346|ns4-k2348|ns4-k2350|ns4-k2352|ns4-k2354|ns4-k2356|ns4-k2358|ns4-k2360|ns4-k2362|ns4-k2364|ns4-k2366|ns4-k2368|ns4-k2370|ns4-k2372|ns4-k2374|ns4-k2376|ns4-k2378|ns4-k2380|ns4-k2382|ns4-k2384|ns4-k2386|ns4-k2388|ns4-k2390|ns4-k2392|ns4-k2394|ns4-k2396|ns4-k2398|ns4-k2400|ns4-k2402|ns4-k2404|ns4-k2406|ns4-k2408|ns4-k2410|ns4-k2412|ns4-k2414|ns4-k2416|ns4-k2418|ns4-k2420|ns4-k2422|ns4-k2424|ns4-k2426|ns4-k2428|ns4-k2430|ns4-k2432|ns4-k2434|ns4-k2436|ns4-k2438|ns4-k2440|ns4-k2442|ns4-k2444|ns4-k2446|ns4-k2448|ns4-k2450|ns4-k2452|ns4-k2454|ns4-k2456|ns4-k2458|ns4-k2460|ns4-k2462|ns4-k2464|ns4-k2466|ns4-k2468|ns4-k2470|ns4-k2472|ns4-k2474|ns4-k2476|ns4-k2478|ns4-k2480|ns4-k2482|ns4-k2484|ns4-k2486|ns4-k2488|ns4-k2490|ns4-k2492|ns4-k2494|ns4-k2496|ns4-k2498|ns4-k2500|ns4-k2502|ns4-k2504|ns4-k2506|ns4-k2508|ns4-k2510|ns4-k2512|ns4-k2514|ns4-k2516|ns4-k2518|ns4-k2520|ns4-k2522|ns4-k2524|ns4-k2526|ns4-k2528|ns4-k2530|ns4-k2532|ns4-k2534|ns4-k2536|ns4-k2538|ns4-k2540|ns4-k2542|ns4-k2544|ns4-k2546|ns4-k2548|ns4-k2550|ns4-k2552|ns4-k2554|ns4-k2556|ns4-k2558|ns4-k2560|ns4-k2562|ns4-k2564|ns4-k2566|ns4-k2568|ns4-k2570|ns4-k2572|ns4-k2574|ns4-k2576|ns4-k2578|ns4-k2580|ns4-k2582|ns4-k2584|ns4-k2586|ns4-k2588|ns4-k2590|ns4-k2592|ns4-k2594|ns4-k2596|ns4-k2598|ns4-k2600|ns4-k2602|ns4-k2604|ns4-k2606|ns4-k2608|ns4-k2610|ns4-k2612|ns4-k2614|ns4-k2616|ns4-k2618|ns4-k2620|ns4-k2622|ns4-k2624|ns4-k2626|ns4-k2628|ns4-k2630|ns4-k2632|ns4-k2634|ns4-k2636|ns4-k2638|ns4-k2640|ns4-k2642|ns4-k2644|ns4-k2646|ns4-k2648|ns4-k2650|ns4-k2652|ns4-k2654|ns4-k2656|ns4-k2658|ns4-k2660|ns4-k2662|ns4-k2664|ns4-k2666|ns4-k2668|ns4-k2670|ns4-k2672|ns4-k2674|ns4-k2676|ns4-k2678|ns4-k2680|ns4-k2682|ns4-k2684|ns4-k2686|ns4-k2688|ns4-k2690|ns4-k2692|ns4-k2694|ns4-k2696|ns4-k2698|ns4-k2700|ns4-k2702|ns4-k2704|ns4-k2706|ns4-k2708|ns4-k2710|ns4-k2712|ns4-k2714|ns4-k2716|ns4-k2718|ns4-k2720|ns4-k2722|ns4-k2724|ns4-k2726|ns4-k2728|ns4-k2730|ns4-k2732|ns4-k2734|ns4-k2736|ns4-k2738|ns4-k2740|ns4-k2742|ns4-k2744|ns4-k2746|ns4-k2748|ns4-k2750|ns4-k2752|ns4-k2754|ns4-k2756|ns4-k2758|ns4-k2760|ns4-k2762|ns4-k2764|ns4-k2766|ns4-k2768|ns4-k2770|ns4-k2772|ns4-k2774|ns4-k2776|ns4-k2778|ns4-k2780|ns4-k2782|ns4-k2784|ns4-k2786|ns4-k2788|ns4-k2790|ns4-k2792|ns4-k2794|ns4-k2796|ns4-k2798|ns4-k2800|ns4-k2802|ns4-k2804|ns4-k2806|ns4-k2808|ns4-k2810|ns4-k2812|ns4-k2814|ns4-k2816|ns4-k2818|ns4-k2820|ns4-k2822|ns4-k2824|ns4-k2826|ns4-k2828|ns4-k2830|ns4-k2832|ns4-k2834|ns4-k2836|ns4-k2838|ns4-k2840|ns4-k2842|ns4-k2844|ns4-k2846|ns4-k2848|ns4-k2850|ns4-k2852|ns4-k2854|ns4-k2856|ns4-k2858|ns4-k2860|ns4-k2862|ns4-k2864|ns4-k2866|ns4-k2868|ns4-k2870|ns4-k2872|ns4-k2874|ns4-k2876|ns4-k2878|ns4-k2880|ns4-k2882|ns4-k2884|ns4-k2886|ns4-k2888|ns4-k2890|ns4-k2892|ns4-k2894|ns4-k2896|ns4-k2898|ns4-k2900|ns4-k2902|ns4-k2904|ns4-k2906|ns4-k2908|ns4-k2910|ns4-k2912|ns4-k2914|ns4-k2916|ns4-k2918|ns4-k2920|ns4-k2922|ns4-k2924|ns4-k2926|ns4-k2928|ns4-k2930|ns4-k2932|ns4-k2934|ns4-k2936|ns4-k2938|ns4-k2940|ns4-k2942|ns4-k2944|ns4-k2946|ns4-k2948|ns4-k2950|ns4-k2952|ns4-k2954|ns4-k2956|ns4-k2958|ns4-k2960|ns4-k2962|ns4-k2964|ns4-k2966|ns4-k2968|ns4-k2970|ns4-k2972|ns4-k2974|ns4-k2976|ns4-k2978|ns4-k2980|ns4-k2982|ns4-k2984|ns4-k2986|ns4-k2988|ns4-k2990|ns4-k2992|ns4-k2994|ns4-k2996|ns4-k2998|ns4-k3000|ns4-k3002|ns4-k3004|ns4-k3006|ns4-k3008|ns4-k3010|ns4-k3012|ns4-k3014|ns4-k3016|ns4-k3018|ns4-k3020|ns4-k3022|ns4-k3024|ns4-k3026|ns4-k3028|ns4-k3030|ns4-k3032|ns4-k3034|ns4-k3036|ns4-k3038|ns4-k3040|ns4-k3042|ns4-k3044|ns4-k3046|ns4-k3048|ns4-k3050|ns4-k3052|ns4-k3054|ns4-k3056|ns4-k3058|ns4-k3060|ns4-k3062|ns4-k3064|ns4-k3066|ns4-k3068|ns4-k3070|ns4-k3072|ns4-k3074|ns4-k3076|ns4-k3078|ns4-k3080|ns4-k3082|ns4-k3084|ns4-k3086|ns4-k3088|ns4-k3090|ns4-k3092|ns4-k3094|ns4-k3096|ns4-k3098|ns4-k3100|ns4-k3102|ns4-k3104|ns4-k3106|ns4-k3108|ns4-k3110|ns4-k3112|ns4-k3114|ns4-k3116|ns4-k3118|ns4-k3120|ns4-k3122|ns4-k3124|ns4-k3126|ns4-k3128|ns4-k3130|ns4-k3132|ns4-k3134|ns4-k3136|ns4-k3138|ns4-k3140|ns4-k3142|ns4-k3144|ns4-k3146|ns4-k3148|ns4-k3150|ns4-k3152|ns4-k3154|ns4-k3156|ns4-k3158|ns4-k3160|ns4-k3162|ns4-k3164|ns4-k3166|ns4-k3168|ns4-k3170|ns4-k3172|ns4-k3174|ns4-k3176|ns4-k3178|ns4-k3180|ns4-k3182|ns4-k3184|ns4-k3186|ns4-k3188|ns4-k3190|ns4-k3192|ns4-k3194|ns4-k3196|ns4-k3198|ns4-k3200|ns4-k3202|ns4-k3204|ns4-k3206|ns4-k3208|ns4-k3210|ns4-k3212|ns4-k3214|ns4-k3216|ns4-k3218|ns4-k3220|ns4-k3222|ns4-k3224|ns4-k3226|ns4-k3228|ns4-k3230|ns4-k3232|ns4-k3234|ns4-k3236|ns4-k3238|ns4-k3240|ns4-k3242|ns4-k3244|ns4-k3246|ns4-k3248|ns4-k3250|ns4-k3252|ns4-k3254|ns4-k3256|ns4-k3258|ns4-k3260|ns4-k3262|ns4-k3264|ns4-k3266|ns4-k3268|ns4-k3270|ns4-k3272|ns4-k3274|ns4-k3276|ns4-k3278|ns4-k3280|ns4-k3282|ns4-k3284|ns4-k3286|ns4-k3288|ns4-k3290|ns4-k3292|ns4-k3294|ns4-k3296|ns4-k3298|ns4-k3300|ns4-k3302|ns4-k3304|ns4-k3306|ns4-k3308|ns4-k3310|ns4-k3312|ns4-k3314|ns4-k3316|ns4-k3318|ns4-k3320|ns4-k3322|ns4-k3324|ns4-k3326|ns4-k3328|ns4-k3330|ns4-k3332|ns4-k3334|ns4-k3336|ns4-k3338|ns4-k3340|ns4-k3342|ns4-k3344|ns4-k3346|ns4-k3348|ns4-k3350|ns4-k3352|ns4-k3354|ns4-k3356|ns4-k3358|ns4-k3360|ns4-k3362|ns4-k3364|ns4-k3366|ns4-k3368|ns4-k3370|ns4-k3372|ns4-k3374|ns4-k3376|ns4-k3378|ns4-k3380|ns4-k3382|ns4-k3384|ns4-k3386|ns4-k3388|ns4-k3390|ns4-k3392|ns4-k3394|ns4-k3396|ns4-k3398|ns4-k3400|ns4-k3402|ns4-k3404|ns4-k3406|ns4-k3408|ns4-k3410|ns4-k3412|ns4-k3414|ns4-k3416|ns4-k3418|ns4-k3420|ns4-k3422|ns4-k3424|ns4-k3426|ns4-k3428|ns4-k3430|ns4-k3432|ns4-k3434|ns4-k3436|ns4-k3438|ns4-k3440|ns4-k3442|ns4-k3444|ns4-k3446|ns4-k3448|ns4-k3450|ns4-k3452|ns4-k3454|ns4-k3456|ns4-k3458|ns4-k3460|ns4-k3462|ns4-k3464|ns4-k3466|ns4-k3468|ns4-k3470|ns4-k3472|ns4-k3474|ns4-k3476|ns4-k3478|ns4-k3480|ns4-k3482|ns4-k3484|ns4-k3486|ns4-k3488|ns4-k3490|ns4-k3492|ns4-k3494|ns4-k3496|ns4-k3498|ns4-k3500|ns4-k3502|ns4-k3504|ns4-k3506|ns4-k3508|ns4-k3510|ns4-k3512|ns4-k3514|ns4-k3516|ns4-k3518|ns4-k3520|ns4-k3522|ns4-k3524|ns4-k3526|ns4-k3528|ns4-k3530|ns4-k3532|ns4-k3534|ns4-k3536|ns4-k3538|ns4-k3540|ns4-k3542|ns4-k3544|ns4-k3546|ns4-k3548|ns4-k3550|ns4-k3552|ns4-k3554|ns4-k3556|ns4-k3558|ns4-k3560|ns4-k3562|ns4-k3564|ns4-k3566|ns4-k3568|ns4-k3570|ns4-k3572|ns4-k3574|ns4-k3576|ns4-k3578|ns4-k3580|ns4-k3582|ns4-k3584|ns4-k3586|ns4-k3588|ns4-k3590|ns4-k3592|ns4-k3594|ns4-k3596|ns4-k3598|ns4-k3600|ns4-k3602|ns4-k3604|ns4-k3606|ns4-k3608|ns4-k3610|ns4-k3612|ns4-k3614|ns4-k3616|ns4-k3618|ns4-k3620|ns4-k3622|ns4-k3624|ns4-k3626|ns4-k3628|ns4-k3630|ns4-k3632|ns4-k3634|ns4-k3636|ns4-k3638|ns4-k3640|ns4-k3642|ns4-k3644|ns4-k3646|ns4-k3648|ns4-k3650|ns4-k3652|ns4-k3654|ns4-k3656|ns4-k3658|ns4-k3660|ns4-k3662|ns4-k3664|ns4-k3666|ns4-k3668|ns4-k3670|ns4-k3672|ns4-k3674|ns4-k3676|ns4-k3678|ns4-k3680|ns4-k3682|ns4-k3684|ns4-k3686|ns4-k3688|ns4-k3690|ns4-k3692|ns4-k3694|ns4-k3696|ns4-k3698|ns4-k3700|ns4-k3702|ns4-k3704|ns4-k3706|ns4-k3708|ns4-k3710|ns4-k3712|ns4-k3714|ns4-k3716|ns4-k3718|ns4-k3720|ns4-k3722|ns4-k3724|ns4-k3726|ns4-k3728|ns4-k3730|ns4-k3732|ns4-k3734|ns4-k3736|ns4-k3738|ns4-k3740|ns4-k3742|ns4-k3744|ns4-k3746|ns4-k3748|ns4-k3750|ns4-k3752|ns4-k3754|ns4-k3756|ns4-k3758|ns4-k3760|ns4-k3762|ns4-k3764|ns4-k3766|ns4-k3768|ns4-k3770|ns4-k3772|ns4-k3774|ns4-k3776|ns4-k3778|ns4-k3780|ns4-k3782|ns4-k3784|ns4-k3786|ns4-k3788|ns4-k3790|ns4-k3792|ns4-k3794|ns4-k3796|ns4-k3798|ns4-k3800|ns4-k3802|ns4-k3804|ns4-k3806|ns4-k3808|ns4-k3810|ns4-k3812|ns4-k3814|ns4-k3816|ns4-k3818|ns4-k3820|ns4-k3822|ns4-k3824|ns4-k3826|ns4-k3828|ns4-k3830|ns4-k3832|ns4-k3834|ns4-k3836|ns4-k3838|ns4-k3840|ns4-k3842|ns4-k3844|ns4-k3846|ns4-k3848|ns4-k3850|ns4-k3852|ns4-k3854|ns4-k3856|ns4-k3858|ns4-k3860|ns4-k3862|ns4-k3864|ns4-k3866|ns4-k3868|ns4-k3870|ns4-k3872|ns4-k3874|ns4-k3876|ns4-k3878|ns4-k3880|ns4-k3882|ns4-k3884|ns4-k3886|ns4-k3888|ns4-k3890|ns4-k3892|ns4-k3894|ns4-k3896|ns4-k3898|ns4-k3900|ns4-k3902|ns4-k3904|ns4-k3906|ns4-k3908|ns4-k3910|ns4-k3912|ns4-k3914|ns4-k3916|ns4-k3918|ns4-k3920|ns4-k3922|ns4-k3924|ns4-k3926|ns4-k3928|ns4-k3930|ns4-k3932|ns4-k3934|ns4-k3936|ns4-k3938|ns4-k3940|ns4-k3942|ns4-k3944|ns4-k3946|ns4-k3948|ns4-k3950|ns4-k3952|ns4-k3954|ns4-k3956|ns4-k3958|ns4-k3960|ns4-k3962|ns4-k3964|ns4-k3966|ns4-k3968|ns4-k3970|ns4-k3972|ns4-k3974|ns4-k3976|ns4-k3978|ns4-k3980|ns4-k3982|ns4-k3984|ns4-k3986|ns4-k3988|ns4-k3990|ns4-k3992|ns4-k3994|ns4-k3996|ns4-k3998|ns4-k4000|ns4-k4002|ns4-k4004|ns4-k4006|ns4-k4008|ns4-k4010|ns4-k4012|ns4-k4014|ns4-k4016|ns4-k4018|ns4-k4020|ns4-k4022|ns4-k4024|ns4-k4026|ns4-k4028|ns4-k4030|ns4-k4032|ns4-k4034|ns4-k4036|ns4-k4038|ns4-k4040|ns4-k4042|ns4-k4044|ns4-k4046|ns4-k4048|ns4-k4050|ns4-k4052|ns4-k4054|ns4-k4056|ns4-k4058|ns4-k4060|ns4-k4062|ns4-k4064|ns4-k4066|ns4-k4068|ns4-k4070|ns4-k4072|ns4-k4074|ns4-k4076|ns4-k4078|ns4-k4080|ns4-k4082|ns4-k4084|ns4-k4086|ns4-k4088|ns4-k4090|ns4-k4092|ns4-k4094|ns4-k4096|ns4-k4098|ns4-k4100|ns4-k4102|ns4-k4104|ns4-k4106|ns4-k4108|ns4-k4110|ns4-k4

status-a	drawer-slot-status optional	• "invalid_port_selector_attached" - Port selector attached, • "invalid_slot_count" - Invalid slot count, • "unsupported_phy_attached" - Unsupported PHY, • "enabled_12gbit" - 12 Gb/s, • "enabled_6gbit" - 6 Gb/s, • "enabled_3gbit" - 3 Gb/s, • "enabled_1gbit" - 1.5 Gb/s, • "enabled_disparity_error_count" - Invalid dword count, • "disabled_disparity_error_count" - Disparity error count, • "disabled_loss_of_sync_count" - Loss of sync count, • "disabled_reset_count" - Reset count, • "disabled_phy_change_count" - PHY change count, • "disabled_broadcast_change_count" - Broadcast change count Status Module B Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "enabled_sata_unknown" - Unknown rate, • "disabled" - Disabled, • "disabled_sata_negotiation_failed" - Speed negotiation failed, • "disabled_sata_bicprot_sync_op_state" - SATA target in spin up state, • "invalid_port_selector_attached" - Port selector attached, • "enabled_1.5gbit_unknown" - Progressing, • "unsupported_phy_attached" - Unsupported PHY, • "enabled_12gbit" - 12 Gb/s, • "enabled_6gbit" - 6 Gb/s, • "enabled_3gbit" - 3 Gb/s, • "enabled_1.5gbit" - 1.5 Gb/s, • "enabled_60gbit" - 60 Gb/s, • "disabled_invalid_dword_count" - Invalid dword count, • "disabled_disparity_error_count" - Disparity error count, • "disabled_loss_of_sync_count" - Loss of sync count, • "disabled_reset_count" - Reset count, • "disabled_phy_change_count" - PHY change count, • "disabled_broadcast_change_count" - Broadcast change count
status-b	drawer-slot-status optional	
type	drawer-slot-type optional	• "unknown" - Unknown, • "data" - Data, • "virtual" - Virtual, • "input" - Input

Element definition: **storage-shell-drawer-slot-info**

Storage shelf drawer slot When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bay	[0..2^32-1]	integer optional	Bay Number Attributes: key, non-creatable, non-modifiable
drawer	[0..2^32-1]	integer optional	Drawer Number Attributes: non-creatable, non-modifiable
is-installed		boolean optional	Is Disk Installed Attributes: non-creatable, non-modifiable
shelf		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
slot	[0..2^32-1]	integer optional	Slot Number Attributes: non-creatable, non-modifiable

Element definition: **storage-shell-firmware-update-info**

Storage shelf firmware update status record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
in-progress-count	[0..2^32-1]	integer optional	Number of Shelves with Earlier Revisions Being Updated Attributes: non-creatable, non-modifiable
node		node-id optional	Node Attributes: key, non-creatable, non-modifiable
update-status	ifc-state optional	Disk Shelf Firmware Update Status Attributes: non-creatable, non-modifiable Possible values: • "running" - Disk shelf firmware update is in progress, • "idle" - Disk shelf firmware update is not in progress.

Element definition: **storage-shell-info**

Storage shelf record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
boot-devices		storage-shelf-boot-devices-info1 optional	Returns the boot device information.
ocp-battery		storage-shelf-ocp-battery-info1 optional	Returns the ocp battery information.
connection-type		storage-shelf-connection-type optional	Shelf Connection Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The connection type is unknown, • "fc" - The storage shelf connects to other devices via Fibre Channel, • "sas" - The storage shelf connects to other devices via Serial Attached SCSI, • "mixed" - The storage shelf connects to other devices via SCMe
cooling-fans		storage-shelf-cooling-fan-info1 optional	Returns cooling fan information.
current-sensors		storage-shelf-current-sensor-info1 optional	Returns current sensor information.
dimms		storage-shelf-dimm-info1 optional	Returns the DIMM information.
disk-count		uint32 optional	Disk Count Attributes: non-creatable, non-modifiable
fc-ports		storage-shelf-fc-port-info1 optional	Returns Fiber Channel port information.
is-local-attach		boolean optional	Is the Shelf Local to This Cluster? Attributes: non-creatable, non-modifiable
module-type		storage-shelf-module-type optional	Shelf Module Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown module type, • "ki_ka" - KI-FCX, • "sas" - IOM3, • "sas3" - IOM6, • "sas6" - IOM6E, • "sas12" - IOM12, • "sas12e" - IOM12E, • "sas12f" - IOM12F, • "sas24" - IOM24, • "sas100" - NS0M100, • "sas136" - IOM136, • "sas96" - NS0M96, • "sas144" - IOM144, • "sas18e" - NS0M18E
nsm-ports		storage-shelf-nsm-port-info1 optional	Returns NSM port information.
op-status		storage-shelf-operation optional	Shelf Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The operational status of the shelf is unknown, • "normal" - The shelf is operational, • "partial" - Some shelf components fail in the storage shelf, • "error" - The shelf has one or more faults that require immediate action, • "critical" - The shelf has one or more critical faults, • "standby_power" - The shelf is in standby power mode
paths		storage-shelf-path-info1 optional	Returns available shelf path information.
power-supply-units		storage-shelf-power-supply-unit-info1 optional	Returns power supply unit information.
sas-ports		storage-shelf-sas-port-info1 optional	Returns SAS port information.
serial-number		string optional	Shelf Serial Number Attributes: non-creatable, non-modifiable
shelf		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
shelf-bays		storage-shelf-bay-info1 optional	Returns shelf bay information.
shelf-errors		storage-shelf-error-info1 optional	Returns storage shelf errors.
shelf-id		string optional	Shelf ID Attributes: non-creatable, non-modifiable
shelf-model		string optional	Shelf Product Identification Attributes: non-creatable, non-modifiable
shelf-modules		storage-shelf-module-info1 optional	Returns I/O controller module information.
shelf-uid		string optional	Shelf UID Attributes: non-creatable, non-modifiable
stack-id		uuidgen810-rev-dce optional	Stack ID Attributes: non-creatable, non-modifiable
state		storage-shelf-state optional	Shelf State Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The shelf state is unknown, • "ok" - The shelf is online and functionable, • "not_required" - The shelf requires initialization, • "online" - The shelf is online, • "offline" - The shelf is offline, • "missing" - The shelf is missing
temperature-sensors		storage-shelf-temperature-sensor-info1 optional	Returns temperature sensor information.
vendor-name		string optional	Shelf Vendor Attributes: non-creatable, non-modifiable
voltage-sensors		storage-shelf-voltage-sensor-info1 optional	Returns voltage sensor information.

Element definition: **storage-shelf-led-status**

on/off Possible values:
• "off",
• "on",
• "unsupported"

[none]

Element definition: **storage-shelf-location-led-info**

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
led-status		storage-shelf-led-status optional	Location LED Attributes: non-creatable, modifiable Possible values: • "off", • "on", • "unsupported"
shelf-id	[0..2^32-1]	integer optional	Shelf ID Attributes: non-creatable, non-modifiable
shelf-name		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
stack-id	[0..2^32-1]	integer optional	Stack ID Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-location-led-modify-iter-info**

Information about the modify operation that was attempted/performed against storage-shelf object.

Name	Range	Type	Description
error-code	[0..2^32-1]	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
storage-shelf-key		storage-shelf-key-info optional	The keys for the storage-shelf object to which the modify operation applies.

Element definition: **storage-shelf-port-info**

Storage shelf port record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cable-end		shelf-cable-end optional	Cable End Attributes: non-creatable, non-modifiable Possible values: • "end_1" - end 1, • "end_2" - end 2
cable-id		string optional	Cable ID Attributes: non-creatable, non-modifiable
cable-length		string optional	Cable Length Attributes: non-creatable, non-modifiable
cable-part-number		string optional	Cable Part Number Attributes: non-creatable, non-modifiable
cable-technology		storage-shelf-cable-technology optional	Cable Technology Attributes: non-creatable, non-modifiable Possible values: • "active_copper" - Active Copper, • "passive_copper" - Passive Copper, • "optical" - Optical
cable-vendor		string optional	Cable Vendor Attributes: non-creatable, non-modifiable
connector-serial-number		string optional	Connector Serial Number Attributes: non-creatable, non-modifiable
connector-state		storage-shelf-connector-state optional	Connector State Attributes: non-creatable, non-modifiable Possible values: • "connected" - Cable is connected, • "disconnected" - Cable is disconnected, • "error" - Cable is connected and is reporting errors.
connector-type		storage-shelf-connector-type optional	Connector Type Attributes: non-creatable, non-modifiable Possible values: • "qsfp" - QSFP, • "sfp" - SFP/SFP+, • "sas" - Mini-SAS HD, • "sff8639" - QSFP28
designator		string optional	Designator Attributes: non-creatable, non-modifiable
id	[0..2^32-1]	integer optional	Port ID Attributes: key, non-creatable, non-modifiable
is-cable-connected		boolean optional	Is Cable Connected? Attributes: non-creatable, non-modifiable
is-error		boolean optional	Any Errors? Attributes: non-creatable, non-modifiable
is-internal		boolean optional	Is Port Internal? Attributes: non-creatable, non-modifiable
location		string optional	Location Attributes: non-creatable, non-modifiable
mac		mac-address optional	Local MAC Address Attributes: non-creatable, non-modifiable
module-id		shelf-module-id optional	Module ID Attributes: non-creatable, non-modifiable Possible values: • "a" - IOM A, • "b" - IOM B, • "unknown" - unknown
remote-chassis		string	Remote Chassis Attributes: non-creatable, non-modifiable

		[leaf-list](#)	
remote-device		[leaf](#)	Remote Device Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-mac		[mac-address](#)	Remote MAC Address Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-phy		[string](#)	Remote Phy Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-port		[string](#)	Remote Port Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-wwn		[string](#)	Remote Device WWN Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
shelf		[string](#)	Shelf Name Attributes: key, non-creatable, non-modifiable
		[container](#)	
swap-count	[0..2^32-1]	[leaf](#)	Swap Count Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
wwn		[leaf-list](#)	Local Device WWN Attributes: non-creatable, non-modifiable

Element definition: **true-false** [type]

true|false

[name]

Element definition: **acp-error-type-enum** [type]

No-Error|Connection-Issue|Connection-Activity|Module-Error|Shelf-Error Possible values:

- "no_error" - No error found,
- "connection_issue" - System is reporting an error with the connection,
- "connection_activity" - Connection activity is not active,
- "module_error" - The ACP processor is reporting an error,
- "shelf_error" - The shelf is reporting an error

[name]

Element definition: **acpp-state-enum** [type]

unknown|initializing|discovery complete|awaiting reboot|no-reboot|active|awaiting boot|updating firmware|connection error|firmware update required|rebooting|fail|unsupported|degraded|shelf off Possible values:

- "unknown" - The status of the processor is unknown,
- "initializing" - The processor is initializing,
- "discovery_complete" - The processor has completed discovery,
- "awaiting_reboot" - The system has no processor ID for the module, reach itself from the module,
- "no_reboot" - The system has no processor ID for the module,
- "active" - The processor is active and can be seen by the system,
- "awaiting_boot" - The processor is waiting for the system to discover it,
- "updating_firmware" - The processor is updating firmware,
- "connection_error" - The processor is reporting a connection error,
- "firmware_update_required" - The processor requires a firmware update,
- "rebooting" - The processor is rebooting,
- "fail" - The processor is failed and needs to be replaced,
- "unsupported" - The processor is unsupported and needs to be upgraded,
- "degraded" - The processor is degraded and a replacement is recommended,
- "shelf_off" - The processor is in power off state

[name]

Element definition: **channel-enum** [type]

unknown|out-of-band|in-band Possible values:

- "unknown" - The connection type is unknown,
- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[name]

Element definition: **connection-status-enum** [type]

no-connectivity|partial-connectivity|full-connectivity|additional-connectivity|unknown-connectivity|not-available|connection-disabled Possible values:

- "no_connectivity" - Error in connectivity. System is unable to see any connectivity,
- "partial_connectivity" - Error in connectivity. System is seeing only partial connectivity,
- "full_connectivity" - No Error in connectivity. System is seeing full connectivity,
- "additional_connectivity" - Error in connectivity. System is seeing additional connectivity,
- "unknown_connectivity" - Error in connectivity. System is unable to determine nature of error,
- "not_available" - Error in connectivity. System is unable to see connectivity,
- "listen_only" - Connection disabled. ACP needs to be in listen only,
- "disabled" - Connection disabled. ACP needs to be configured

[name]

Element definition: **drawer-path-status** [type]

unknown|ok|degraded|none Possible values:

- "unknown" - Unknown,
- "ok" - Ok,
- "degraded" - Degraded,
- "none" - None

[name]

Element definition: **drawer-phy-state** [type]

unknown|enabled|disabled Possible values:

- "unknown" - Unknown,
- "enabled" - Enabled,
- "disabled" - Disabled

[name]

Element definition: **drawer-phy-status** [type]

Drawer PHY Status Possible values:

- "unknown" - Unknown,
- "enabled_rate_unknown" - Unknown rate,
- "disabled" - Disabled,
- "enabled_sata_negotiation_failed" - Speed negotiation failed,
- "enabled_sata_target_spin_up_state" - SATA target in spin up state,
- "enabled_port_selector_attached" - Port selector attached,
- "enabled_1_5gbps" - 1.5 Gb/s negotiated,
- "unsupported_phy_attached" - Unsupported PHY,
- "enabled_3Gbps" - 3.0 Gb/s,
- "enabled_6Gbps" - 6.0 Gb/s,
- "enabled_12gbps" - 12 Gb/s,
- "enabled_22gbps" - 22.5 Gb/s,
- "enabled_45gbps" - 45 Gb/s,
- "disabled_invalid_dword_count" - Invalid dword count,
- "disabled_disparity_error_count" - Disparity error count,
- "disabled_loss_of_sync_count" - Loss of sync count,
- "disabled_phy_reset_problem" - Phy reset problem,
- "disabled_phy_change_count" - PHY change count,
- "disabled_broadcast_change_count" - Broadcast change count

[name]

Element definition: **drawer-phy-type** [type]

unknown|disk|virtual|input Possible values:

- "unknown" - Unknown,
- "disk" - Disk,
- "virtual" - Virtual,
- "input" - Input

[name]

Element definition: **drawer-status** [type]

unknown|normal|warning|error|critical Possible values:

- "unknown" - Unknown,
- "normal" - Normal,
- "warning" - Warning,
- "error" - Error,
- "critical" - Critical

[name]

Element definition: **filer-id** [type]

Filer ID(0)

[name]

Element definition: **iom-type-enum** [type]

Unknown|Iom3|Iom6|Iom6E|Iom12|Iom12e|Iom12f|Iom12g|Iom12q Possible values:

- "unknown" - The processor is reporting an error, and is unaware of its type,
- "iom3" - The processor is of type IOM3,
- "iom6" - The processor is of type IOM6,
- "iom6e" - The processor is of type IOM6E,
- "iom12" - The processor is of type IOM12,
- "iom12e" - The processor is of type IOM12E,
- "iom12f" - The processor is of type IOM12F,
- "iom12g" - The processor is of type IOM12G,
- "iom12q" - The processor is of type IOM12q

[name]

Element definition: **ip-address** [type]

IPv4 and IPv6 address

[name]

Element definition: **mac-address** [type]

MAC Address

[name]

Element definition: **node-name** [type]

The node's name

[name]

Element definition: **open-closed** [type]

open|closed Possible values:

- "unknown" - Unknown,
- "open" - Open,
- "closed" - Closed

[name]

Element definition: **sfu-status** [type]

running|idle Possible values:

- "running" - Disk shelf firmware update is in progress,
- "idle" - Disk shelf firmware update is not in progress

[name]

Element definition: **shelf-cable-end** [type]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[name]

Element definition: **shelf-module-id** [type]

A|B Possible values:

- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[name]

Element definition: **storage-shelf-bay-info** [type]

Returns shelf bay information.

Name	Range	Type	Description
bay-has-disk		[boolean](#)	Bay Has Disk Attributes: non-creatable, non-modifiable
		[container](#)	
bay-id		[uniontype(0..2^32-1|string)](#)	Bay ID Attributes: non-creatable, non-modifiable
		[container](#)	
			Bay Operational Status Attributes: non-creatable, non-modifiable Possible values:

key-up-status	storage-shelf-key-up-status optional		• "unknown" - The operational status of the disk bay is unknown, • "normal" - The operational status of the disk bay is normal, • "error" - The operational status of the disk bay is error Key Type Attributes: non-creatable, non-modifiable Possible values:
key-type	storage-shelf-key-type optional		• "unknown" - The disk bay type is unknown, • "sata_sas" - The disk bay carries SATA or SAS disks, • "nvdi_ssd" - The disk bay carries multiple U2Ns

Element definition: **storage-shelf-boot-device-info**

[top]

Returns the boot device information.

Name	Range	Type	Description
boot-device-id	**[0..2^32-1]**	integer optional	Boot Device ID Attributes: non-creatable, non-modifiable
boot-device-module-id		shelf-module-id optional	Boot Device Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
boot-device-op-status		storage-shelf-boot-device-op-status optional	Boot Device Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "normal" - Normal, • "off" - Off, • "not_supported" - Not Supported, • "not_installed" - Not Installed
boot-device-size		string optional	Boot Device Size Attributes: non-creatable, non-modifiable
boot-device-type		string optional	Boot Device Type Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-cable-technology**

[top]

active-copper|passive-copper|optical Possible values:

- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[name]

Element definition: **storage-shelf-coin-battery-info**

[top]

Returns the coin battery information.

Name	Range	Type	Description
coin-battery-id	**[0..2^32-1]**	integer optional	Coin Battery ID Attributes: non-creatable, non-modifiable
coin-battery-module-id		shelf-module-id optional	Coin Battery Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
coin-battery-op-status		storage-shelf-coin-battery-op-status optional	Coin Battery Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "normal" - Normal, • "off" - Off, • "low" - Low Voltage, • "high" - High Voltage, • "not_supported" - Not Supported, • "not_installed" - Not Installed
coin-battery-voltage	**[0..2^32-1]**	integer optional	Coin Battery Voltage (mV) Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-connection-type**

[top]

unknown|fc|sas|none Possible values:

- "unknown" - The connection type is unknown,
- "fc" - The storage shelf connects to other devices via Fibre Channel,
- "sas" - The storage shelf connects to other devices via Serial Attached SCSI,
- "none" - The storage shelf connects to other devices via NVMe

[name]

Element definition: **storage-shelf-connector-state**

[top]

connected|disconnected|error Possible values:

- "connected" - Cable is connected,
- "disconnected" - Cable is disconnected,
- "error" - Cable is connected and is reporting errors

[name]

Element definition: **storage-shelf-connector-type**

[top]

QSFP|QSFP+|QSFP28|Mini-SAS-HD Possible values:

- "qsfp" - QSFP,
- "qsfp" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "qsfp28" - QSFP28

[name]

Element definition: **storage-shelf-cooling-fan-info**

[top]

Returns cooling fan information.

Name	Range	Type	Description
fan-id		unsigned32-or-null optional	Fan ID Attributes: non-creatable, non-modifiable
fan-location		string optional	Fan Location Attributes: non-creatable, non-modifiable
fan-op-status		storage-shelf-fan-op-status optional	Fan Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "off" - Off, • "error" - Error, • "not_supported" - Not Supported, • "not_installed" - Not Installed
fan-rpm		unsigned32-or-null optional	Fan Rotation Per Minute Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-current-sensor-info**

[top]

Returns current sensor information.

Name	Range	Type	Description
current-op-status		storage-shelf-current-op-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "over_current_critical" - Critical Over Current, • "under_current_critical" - Critical Under Current, • "not_supported" - Not Supported, • "not_installed" - Not Installed
current-sensor-id		unsigned32-or-null optional	Current Sensor ID Attributes: non-creatable, non-modifiable
current-sensor-location		string optional	Current Sensor Location Attributes: non-creatable, non-modifiable
current-sensor-reading		unsigned32-or-null optional	Current Sensor Reading Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-dimm-info**

[top]

Returns the DIMM information.

Name	Range	Type	Description
dimm-id	**[0..2^32-1]**	integer optional	DIMM ID Attributes: non-creatable, non-modifiable
dimm-location		string optional	DIMM Location Attributes: non-creatable, non-modifiable
dimm-module-id		shelf-module-id optional	DIMM Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
dimm-op-status		storage-shelf-dimm-op-status optional	DIMM Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "normal" - Normal, • "error" - Error, • "not_supported" - Not Supported, • "not_installed" - Not Installed
dimm-size		string optional	DIMM Size Attributes: non-creatable, non-modifiable
dimm-type		string optional	DIMM Type Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-error-info**

[top]

Returns storage shelf errors.

Name	Range	Type	Description
component-location		string optional	Location of component with error Attributes: non-creatable, non-modifiable
corrective-action		string optional	Corrective Action Attributes: non-creatable, non-modifiable
error-id		unsigned32-or-null optional	Error Identifier Attributes: non-creatable, non-modifiable
error-severity		storage-shelf-error-severity optional	Error Severity Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The error severity is unknown, • "notice" - A normal-priority message, does not indicate a fault, • "warning" - A high-priority warning message, does not indicate a fault, • "error" - A fault condition which is not immediately fatal but requires immediate attention, • "critical" - A critical fault condition, typically disruptive
error-text		string optional	Error Text Attributes: non-creatable, non-modifiable
error-type		storage-shelf-error-type optional	Error Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "loop" - Sporadic control path processor error, • "configuration" - Configuration error, • "cooling" - Cooling error, • "fan" - Cooling fan error, • "module" - I/O controller module error, • "power_supply" - Power supply error, • "temperature" - Temperature error, • "voltage" - Voltage error, • "undefined" - Root device error, • "bootmedia" - Boot media error, • "dimm" - DIMM error, • "expander" - Expander error, • "pcie" - PCIe error
shelf-component		string optional	Shelf component with error Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-error-severity**

[top]

unknown|notice|warning|error|critical Possible values:

- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[name]

Element definition: **storage-shelf-fc-port-info**

[top]

Returns Fiber Channel port information.

Name	Range	Type	Description
fc-port-id		integer optional	Fibre Channel Port ID Attributes: non-creatable, non-modifiable
fc-port-mode		storage-shelf-port-type optional	Fibre Channel Port Mode Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port type is unknown, • "circle" - Circle, • "square" - Square, • "qc" - QC, • "dot" - Dot, • "in" - In, • "out" - Out, • "not_shared" - Not Shared, • "host" - Host, • "disk" - DCM, • "iom_a" - IOM A, • "dot2" - Dot 2, • "h_ha" - H-Ha, • "h_iom_b" - IOM B, • "h_to_a" - H-to-A Fibre Channel Port Operational Status Attributes: non-creatable, non-modifiable Possible values: • "error" - Error, • "not_shared" - Not Shared, • "offline" - Offline, • "unknown_status" - StatusUnknown, • "online" - Online, • "loop_bad_term" - loop-bad-term, • "lost_loop_recovery" - lost-loop-recovery, • "loop_ok" - loop-ok, • "loop_control_fail" - loop_control_ins, • "loop_crc_bad_fix" - loop_crc_bad_fix, • "loop_crc_bad_unfix" - loop_crc_bad_unfix, • "loop_data_timeout" - loop_data_timeout, • "loop_drv_fault" - loop_drv_fault, • "loop_drv_not_ready" - loop_drv_not_ready, • "loop_drv_proc" - loop_drv_proc, • "loop_drv_self" - loop_proc, • "loop_frame" - loop_frame, • "loop_init" - loop_init, • "loop_lip_lost_fix" - loop_lip_lost_fix,

fc-port-op-status	storage-shelf-port-op-status optional	"bys_fc_fc" - bys_fc_fc, "bys_fc_fc_rate_fix" - bys_fc_fc_rate_fix, "bys_fcal" - bys_fcal, "bys_fcbb" - bys_fcbb, "bys_fcvi" - bys_fcvi, "bys_nic" - bys_nic, "bys_nic_driver" - bys_nic_driver, "bys_offline" - bys_offline, "bys_other_fc" - bys_other_fc, "bys_nic_lic" - bys_nic_lic, "bys_fcal_lic" - bys_fcal_lic, "bys_fcbb_lic" - bys_fcbb_lic, "bys_wrd_limi_lic" - bys_wrd_limi_lic, "bys_wrd_limi_driver" - bys_wrd_limi_dri, "bys_crnt_fault" - bys_crnt_fault, "diag_transmit" - diag_transmit, "loopback" - loopback, "loopback" - loopback, "status_unknown" - status_unknown, "warn_high_crc_rate" - warn_high_crc_defa, "warn_high_crc_rate" - warn_high_crc_rate, "warn_high_fp" - warn_high_fp, "warn_high_wrd_rate" - warn_high_wrd_rate, "warn_low_wrd_rate" - warn_low_wrd_rate, "down" - down, "phy_dis_crc_fault" - phy_dis_crc_fault, "phy_dis_crc_err" - phy_dis_crc_err, "phy_dis_crc_err_burst" - phy_dis_crc_err_burst, "phy_dis_disparity" - phy_dis_disparity, "phy_dis_disparity_burst" - phy_dis_disparity_burst, "phy_dis_invalid_dword" - phy_dis_invalid_dword_receive, "phy_dis_invalid_dword" - phy_dis_invalid_dword, "phy_dis_invalid_dword_burst" - phy_dis_invalid_dword_burst, "phy_dis_loss_dword" - phy_dis_loss_dword, "phy_dis_loss_dword_burst" - phy_dis_loss_dword_burst, "phy_dis_man_phy" - phy_dis_man_phy, "phy_dis_reset" - phy_dis_reset, "disabled_removed" - Disabled/Removed, "empty" - Empty, "phy_dis_phy_change" - phy_dis_phy_change, "phy_dis_phy_change_burst" - phy_dis_phy_change_burst, "phy_dis_phy_reset" - phy_dis_phy_reset, "phy_dis_phy_reset_burst" - phy_dis_phy_reset_burst, "disabled" - Phy is disabled or unused, "enabled" - Phy is enabled, "phy_not_present" - Phy not attached, "phy_oop_unknown" - phy_oop_unknown, "unknown" - Unknown Phy, "phy_dis_illegal" - Disabled/Illegal

Element definition: **storage-shelf-led-status**

[Input]

enum Possible values:
- "off",
- "on",
- "unsupported"

[/input]

Element definition: **storage-shelf-location-led-info**

[Input]

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
led-status		storage-shelf-led-status optional	Location LED Attributes: non-creatable, modifiable Possible values: • "off", • "on", • "unsupported"
shelf-id	[0..2^32-1]	storage-shelf-id optional	Shelf ID Attributes: non-creatable, non-modifiable
shelf-name		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
stack-id	[0..2^32-1]	storage-stack-id optional	Stack ID Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-module-info**

[Input]

Returns I/O controller module information.

Name	Range	Type	Description
ec-serial-number		string optional	ES Electronics Element Serial Number Attributes: non-creatable, non-modifiable
is-monitor-active		boolean optional	Is Monitor Active? Attributes: non-creatable, non-modifiable
is-sas-master-module		boolean optional	Is SAS Expander Master Module? Attributes: non-creatable, non-modifiable
module-fru-id		string optional	Field Replaceable Unit ID Attributes: non-creatable, non-modifiable
module-fw-progress		storage-shelf-fw-fw-fw-progress optional	Module Firmware Progress Attributes: non-creatable, non-modifiable Possible values: • "not_available" - Not available, • "ready" - Ready, • "in_progress" - In Progress, • "failed" - Failed
module-fw-revision		string optional	Firmware Revision Attributes: non-creatable, non-modifiable
module-id		string optional	Module ID Attributes: non-creatable, non-modifiable
module-is-reporting-element		boolean optional	Is Reporting Element? Attributes: non-creatable, non-modifiable
module-latest-fw-revision		string optional	Latest Firmware Revision Attributes: non-creatable, non-modifiable
module-location		string optional	Module Location Attributes: non-creatable, non-modifiable
module-op-status		storage-shelf-module-op-status optional	Module Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The operational status of the module is unknown, • "normal" - The shelf module is operational, • "warning" - There are warning conditions, the module is operational, • "error" - The shelf module has one or more errors that require immediate action, • "not_installed" - The shelf module is not installed
module-part-number		string optional	Module Part Number Attributes: non-creatable, non-modifiable
module-swap-count		storage-shelf-swap-count optional	Module Swap Count Attributes: non-creatable, non-modifiable
module-type		storage-shelf-module-type optional	Module Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown module type, • "at_ifcx" - AT-ICX, • "iom3" - IOM3, • "iom6" - IOM6, • "iom6E" - IOM6E, • "ses12" - SES12, • "ses12e" - SES12E, • "ses24" - SES24, • "ses24e" - SES24E, • "ses100" - SES100, • "ses100e" - SES100E, • "ses3x" - SES3X, • "ses12g" - SES12G, • "ses24e" - SES12E

Element definition: **storage-shelf-module-type**

[Input]

unknown|at_ifcx|iom6|iom3|iom6E|ses12|ses24|ses12e|ses100|ses100e|ses-3x|ses-12g|ses-12g Possible values:
- "unknown" - Unknown module type,
- "at_ifcx" - AT-ICX,
- "iom3" - IOM3,
- "iom6" - IOM6,
- "iom6E" - IOM6E,
- "ses12" - SES12,
- "ses12e" - SES12E,
- "ses24" - SES24,
- "ses24e" - SES24E,
- "ses100" - SES100,
- "ses100e" - SES100E,
- "ses3x" - SES3X,
- "ses12g" - SES12G,
- "ses24e" - SES12E

[/input]

Element definition: **storage-shelf-nsm-port-info**

[Input]

Returns NSM port information.

Name	Range	Type	Description
nsm-port-bay	[0..2^32-1]	integer optional	Port Bay Attributes: non-creatable, non-modifiable
nsm-port-id	[0..2^32-1]	integer optional	Port ID Attributes: non-creatable, non-modifiable
nsm-port-module-id		shelf-fc-port-module-id optional	Port Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
nsm-port-speed		storage-shelf-nsm-port-speed optional	Port Speed Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port speed is unknown, • "1_0" - 1.0 Gb/s, • "2_0" - 2.0 Gb/s, • "4_0" - 4.0 Gb/s
nsm-port-speed-max		storage-shelf-nsm-port-speed optional	Max Port Speed Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port speed is unknown, • "2_0" - 2.0 Gb/s, • "5_0" - 5.0 Gb/s, • "8_0" - 8.0 Gb/s
nsm-port-state		storage-shelf-nsm-port-state optional	Port State Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port state is unknown, • "off" - Off, • "off_link_disabled" - Off, Link Disabled, • "off_dll_link" - Off, Data Link Layer Link, • "link_down" - Link Down, • "no_drive" - No Drive
nsm-port-type		storage-shelf-nsm-port-type optional	Port Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port type is unknown, • "cpu" - CPU, • "sas" - SAS, • "nsm" - NetX, • "ethernet" - Ethernet

Element definition: **storage-shelf-op-status**

[Input]

unknown|normal|warning|error|critical|standby power Possible values:
- "unknown" - The operational status of the shelf is unknown,
- "normal" - The shelf is operational,
- "warning" - There are warning conditions in the storage shelf,
- "error" - The shelf has one or more faults that require immediate action,
- "critical" - The shelf has one or more critical faults,
- "standby_power" - The shelf is in standby power mode

[/input]

Element definition: **storage-shelf-path-info**

[Input]

Returns available shelf path information.

Name	Range	Type	Description
controller		node-name optional	Controller Name Attributes: non-creatable, non-modifiable
controller-uuid		string optional	Controller UUID Attributes: non-creatable, non-modifiable
initiator		string optional	Initiator Attributes: non-creatable, non-modifiable
initiator-side-switch-port		string optional	Initiator Side Switch Port Attributes: non-creatable, non-modifiable
initiator-wwpn		string optional	Initiator WWPN Attributes: non-creatable, non-modifiable
io-kbps		unsigned32 or nil optional	Kbytes/sec on Storage Shelf Attributes: non-creatable, non-modifiable
iops		unsigned32 or nil optional	Number IOPS per Second on Storage Shelf Attributes: non-creatable, non-modifiable
port-speed		unsigned32 or nil optional	Port Speed Attributes: non-creatable, non-modifiable
target-port		string optional	Target Port Attributes: non-creatable, non-modifiable
target-side-switch-port		string optional	Target Side Switch Port Attributes: non-creatable, non-modifiable
tpgn		unsigned32 or nil optional	Target Port Group Number Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-power-supply-unit-info**

[Input]

Returns power supply unit information.

Name	Range	Type	Description
psu-vrmt-factor		unsigned32 or nil optional	Power Supply Vrmt Factor Attributes: non-creatable, non-modifiable
psu-fw-version		string optional	Power Supply Unit Firmware Version Attributes: non-creatable, non-modifiable
psu-id		unsigned32 or nil optional	Power Supply Unit ID Attributes: non-creatable, non-modifiable
psu-is-enabled		boolean optional	Power Supply Unit Enable/Disable Status Attributes: non-creatable, non-modifiable
psu-location		string optional	Power Supply Unit Location Attributes: non-creatable, non-modifiable
psu-op-status		storage-shelf-psu-op-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "failed" - Failed, • "dc_over_voltage" - DC Over Voltage, • "dc_under_voltage" - DC Under Voltage, • "dc_over_current" - DC Over Current, • "over_temperature_error" - Over Temperature, • "failed" - Failed, • "off" - Off, • "not_supported" - Not Supported, • "not_installed" - Not Installed
psu-part-number		string optional	Power Supply Unit Part Number Attributes: non-creatable, non-modifiable
psu-power-drawn		unsigned32 or nil optional	Power Drawn From PSU In Watts Attributes: non-creatable, non-modifiable
psu-power-rating		unsigned32 or nil optional	Power Supply Power Ratings In Watts Attributes: non-creatable, non-modifiable

psu-reset-capable	boolean optional	Power Supply Unit Reset Capability Attributes: non-creatable, non-modifiable
psu-serial-number	string optional	Power Supply Unit Serial Number Attributes: non-creatable, non-modifiable
psu-type	string optional	Power Supply Unit Type Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-sas-port-info**

[type]

Returns SAS port information.

Name	Range	Type	Description
sas-negotiated-port-speed		string optional	Negotiated Port Speed Attributes: non-creatable, non-modifiable
sas-port-id		string optional	Port ID Attributes: non-creatable, non-modifiable
sas-port-module-id		shelf-module-id optional	Port Module ID Attributes: non-creatable, non-modifiable Possible values: • "a" - IOM A, • "b" - IOM B, • "unknown" - unknown
sas-port-op-status		storage-shelf-port-op-status optional	Port Operational Status Attributes: non-creatable, non-modifiable Possible values: • "error" - Error, • "normal" - Normal, • "offline" - Offline, • "unknown" - Unknown Status/Unknown, • "unused" - Unused, • "bcp_bad_brnv" - bcp-bad-brnv, • "bcp_boot_recovery" - bcp-boot-recovery, • "bcp_clk_fail" - bcp_clk_fail, • "bcp_comms_fail" - bcp_comms_fail, • "bcp_ov_rate_crit" - bcp_ov_rate_crit, • "bcp_uv_rate_crit" - bcp_uv_rate_crit, • "bcp_data_timeout" - bcp_data_timeout, • "bcp_dcv_fail" - bcp_dcv_fail, • "bcp_dcv_pwrdn" - bcp_dcv_pwrdn, • "bcp_dcv_pwr" - bcp_dcv_pwr, • "bcp_pwr_off" - bcp_pwr, • "bcp_sci_fail" - bcp_sci, • "bcp_init" - bcp_init, • "bcp_ov_brd_thr" - bcp_ov_brd_thr, • "bcp_ov_brd" - bcp_ov_brd, • "bcp_uv_rate_thr" - bcp_uv_rate_thr, • "bcp_fpga" - bcp_fpga, • "bcp_main" - bcp_main, • "bcp_mbr" - bcp_mbr, • "bcp_no_drive" - bcp_no_drive, • "bcp_oc_fault" - bcp_oc, • "bcp_other_thr" - bcp_other_thr, • "bcp_rec_to" - bcp_rec_to, • "bcp_sci_to" - bcp_sci_to, • "bcp_stat_thr" - bcp_stat_thr, • "bcp_ard_brd_thr" - bcp_ard_brd_thr, • "bcp_ard_brd" - bcp_ard_brd_fault, • "bcp_ard_fault" - bcp_ard_fault, • "dag_transmit" - dag_transmit, • "fpga_fault" - fpga, • "modules" - modules, • "status_unknown" - status_unknown, • "warn_high_ov_brd" - warn_high_ov_delta, • "warn_high_ov_rate" - warn_high_ov_rate, • "warn_high_to" - warn_high_to, • "warn_uv_brd_rate" - warn_uv_brd_rate, • "warn_ard_brd" - warn_ard_brd, • "psvc" - psvc, • "phy_dls_clk_fault" - phy_dls_clk_fault, • "phy_dls_crc_err" - phy_dls_crc_err, • "phy_dls_crc_err_burst" - phy_dls_crc_err_burst, • "phy_dls_disparity" - phy_dls_disparity, • "phy_dls_disparity_burst" - phy_dls_disparity_burst, • "phy_dls_encodate_reserve" - phy_dls_encodate_reserve, • "phy_dls_invd_dword" - phy_dls_invd_dword, • "phy_dls_invd_dword_burst" - phy_dls_invd_dword_burst, • "phy_dls_loss_dword" - phy_dls_loss_dword, • "phy_dls_loss_dword_burst" - phy_dls_loss_dword_burst, • "phy_dls_man_disable" - phy_dls_man_disable, • "phy_dls_noimsel" - Disabled/Removed, • "phy_dls_psvcsel" - Disabled/Removed, • "enabled" - Phy is enabled, • "phy_dls_phy_change" - phy_dls_phy_change, • "phy_dls_phy_change_burst" - phy_dls_phy_change_burst, • "phy_dls_phy_reset" - phy_dls_phy_reset, • "phy_dls_phy_reset_burst" - phy_dls_phy_reset_burst, • "disabled" - Phy is disabled or unused, • "enabled" - Phy is enabled, • "no_device" - No device attached, • "phy_mia_unknown" - phy_mia_unknown, • "unknown" - Unknown Phy, • "phy_dls_illegal" - Disabled/Illegal
sas-port-power-status		string optional	Port Power Status Attributes: non-creatable, non-modifiable
sas-port-speed		string optional	Port Speed Attributes: non-creatable, non-modifiable
sas-port-type		shelf-port-type optional	Port Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port type is unknown, • "qsfp" - QSFP, • "qsfpdd" - QSFP-DD, • "sff" - SFF, • "sfp" - SFP, • "qsfp" - QSFP, • "out" - Out, • "unused" - Unused, • "mini" - Mini, • "dsm" - DCM, • "dsm2" - DCM 2, • "ft_fc" - FC-FC, • "ft_fcf" - FC-FCF, • "ft_ib_a" - IB-to-A, • "ft_ib_e" - IB-to-E
sas-port-wwpn		string optional	Port World Wide Port Name Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-state**

[type]

unknown|no-state|init-required|online|offline|missing Possible values:
- "unknown" - The shelf state is unknown,
- "no_status" - The shelf state is not available,
- "init_required" - The shelf requires initialization,
- "online" - The shelf is online,
- "offline" - The shelf is offline,
- "missing" - The shelf is missing

[name]

Element definition: **storage-shelf-temperature-sensor-info**

[type]

Returns temperature sensor information.

Name	Range	Type	Description
high-critical-threshold		unsigned32-or-null optional	High Critical Threshold Attributes: non-creatable, non-modifiable
high-warning-threshold		unsigned32-or-null optional	High Warning Threshold Attributes: non-creatable, non-modifiable
temp-in-ambient		integer optional	Temperature Reading at Ambient Value Attributes: non-creatable, non-modifiable
temp-low-critical-threshold		unsigned32-or-null optional	Low Critical Threshold Attributes: non-creatable, non-modifiable
temp-low-warning-threshold		unsigned32-or-null optional	Low Warning Threshold Attributes: non-creatable, non-modifiable
temp-sane-op-status		storage-shelf-temperature-sensor-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "under_temperature" - Under Temperature, • "over_temperature" - Over Temperature, • "error" - Error, • "not_supported" - Not Supported, • "not_installed" - Not Installed
temp-sensor-id		unsigned32-or-null optional	Sensor Name Attributes: non-creatable, non-modifiable
temp-sensor-reading		unsigned32-or-null optional	Temperature Reading Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-voltage-sensor-info**

[type]

Returns voltage sensor information.

Name	Range	Type	Description
voltage-op-status		storage-shelf-voltage-op-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "over_voltage_critical" - Critical Over Voltage, • "under_voltage_critical" - Critical Under Voltage, • "not_supported" - Not Supported, • "not_installed" - Not Installed, • "not_recoverable" - Not Recoverable
voltage-sensor-id		unsigned32-or-null optional	Voltage Sensor ID Attributes: non-creatable, non-modifiable
voltage-sensor-location		string optional	Voltage Sensor Location Attributes: non-creatable, non-modifiable
voltage-sensor-reading		string optional	Voltage Current Reading Attributes: non-creatable, non-modifiable

Element definition: **unsigned64-or-dash**

[type]

[name]

Element definition: **node-name**

[type]

The node's name

[name]

Element definition: **shelf-module-id**

[type]

A|B Possible values:
- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[name]

Element definition: **storage-shelf-bay-op-status**

[type]

unknown|normal|error Possible values:
- "unknown" - The operational status of the disk bay is unknown,
- "normal" - The operational status of the disk bay is normal,
- "error" - The operational status of the disk bay is error

[name]

Element definition: **storage-shelf-bay-type**

[type]

unknown|single-disk|multi-lun Possible values:
- "unknown" - The disk bay type is unknown,
- "single_disk" - The disk bay carries a single disk,
- "multi_lun" - The disk bay carries multiple LUNs

[name]

Element definition: **storage-shelf-boot-device-op-status**

[type]

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[name]

Element definition: **storage-shelf-coin-battery-op-status**

[type]

unknown|normal|error|low|high|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "low" - Low Voltage,
- "high" - High Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[name]

Element definition: **storage-shelf-current-op-status**

[type]

unknown|normal|over-current-critical|under-current-critical|not-supported|not-installed Possible values:
- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_current_critical" - Critical Over Current,
- "under_current_critical" - Critical Under Current,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[name]

Element definition: **storage-shelf-dimm-op-status**

[type]

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,

- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-error-type** [more]

Unknown|ACPF|Backbone|Combattery|Configuration|Current|Dimm|Expander|Fan|Module|PCM|Power|Temperature|Voltage Possible values:

- "unknown" - Unknown,
- "acpp" - Alternate control path processor error,
- "backbone" - Backbone hardware error,
- "current" - Current error,
- "fan" - Cooling fan error,
- "module" - Storage enclosure module error,
- "power" - Power supply error,
- "temperature" - Temperature error,
- "voltage" - Voltage error,
- "bootdevice" - Boot device error,
- "combattery" - Coin battery error,
- "dimm" - DIMM error,
- "expander" - Expander error,
- "pcm" - PCM error

[more]

Element definition: **storage-shell-fan-op-status** [more]

unknown|normal|off|error|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "off" - Off,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-led-status** [more]

on|off Possible values:

- "off",
- "on",
- "emsupported"

[more]

Element definition: **storage-shell-module-fw-progress** [more]

not-available|ready|in-progress|failed Possible values:

- "not_available" - Not available,
- "ready" - Ready,
- "in_progress" - In Progress,
- "failed" - Failed

[more]

Element definition: **storage-shell-module-op-status** [more]

unknown|normal|warning|error|not-installed Possible values:

- "unknown" - The operational status of the module is unknown,
- "normal" - The shelf module is operational,
- "warning" - There are warning conditions, the module is operational,
- "error" - The shelf module has one or more errors that require immediate action,
- "not_installed" - The shelf module is not installed

[more]

Element definition: **storage-shell-asm-port-speed** [more]

2.5|5.0|8.0 Possible values:

- "unknown" - Port speed is unknown,
- "2_5" - 2.5 Gb/s,
- "5_0" - 5.0 Gb/s,
- "8_0" - 8.0 Gb/s

[more]

Element definition: **storage-shell-asm-port-state** [more]

dis|off-link-disabled|off-dfl-link|link-down|no-drive Possible values:

- "unknown" - Port state is unknown,
- "dis" - Dis,
- "off_link_disabled" - Off, Link Disabled,
- "dfl_link" - Dfl, Waiting Link Layer Init,
- "link_down" - Link Down,
- "no_drive" - No Drive

[more]

Element definition: **storage-shell-asm-port-type** [more]

cpu|disk|ioh|ethernet Possible values:

- "unknown" - Port type is unknown,
- "cpu" - CPU,
- "disk" - Disk,
- "ioh" - IOH,
- "ethernet" - Ethernet

[more]

Element definition: **storage-shell-port-op-status** [more]

error|normal|off|unknown|top-bad-term|bad-over-recovery|fcp_cfg_fw_mismatch|fcp_cmmnd_fail|fcp_crc_limit_thr|fcp_data_timeout|fcp_drv_fault|fcp_drv_recycle|fcp_drv_perr|fcp_drv_serr|fcp_drv_wdt|fcp_gen|fcp_init|fcp_lip_limit_thr|fcp_lip_rate_thr|fcp_lip7|fcp_lilp|fcp_man|fcp_no_drive|fcp_other_thr|fcp_rec_lnk|fcp_rport|fcp_slot_thr|fcp_snd_limit_thr|fcp_snd_rate_thr|fcp_snd_fault|diag_transmit|inserted|loopback|status_unknown|warn_high_cfg_delta|warn_high_crc_rate|warn_high_crc_thr|warn_high_snd_rate|warn_high_snd_thr|warn_snd_limit|warn_snd_limit_thr|phy_phy_cfg_fault|phy_phy_crc_err|phy_phy_crc_err_burst|phy_phy_disparity|phy_phy_disparity_burst|phy_phy_disparity_burst2|phy_phy_disparity_burst_reserve|phy_phy_invalid_dword|phy_phy_invalid_dword_burst|phy_phy_loss_dword|phy_phy_loss_dword_burst|phy_phy_man_smp|phy_phy_reset|phy_phy_reset_burst|phy_phy_unused|phy_phy_wait_not_attach|phy_wwn_unknown|phy_unknown|phy_phy_illegal Possible values:

- "error" - Error,
- "normal" - Normal,
- "off" - Disabled,
- "unknown_status" - Status Unknown,
- "unused" - Unused,
- "top_bad_term" - Top bad term,
- "bad_over_recovery" - bad over recovery,
- "fcp_cfg_fw" - fcp_cfg_fw,
- "fcp_cmmnd_fail" - fcp_cmmnd_fail,
- "fcp_crc_limit_thr" - fcp_crc_limit_thr,
- "fcp_crc_rate_thr" - fcp_crc_rate_thr,
- "fcp_data_timeout" - fcp_data_timeout,
- "fcp_drv_fault" - fcp_drv_fault,
- "fcp_drv_recycle" - fcp_drv_recycle,
- "fcp_drv_perr" - fcp_drv_perr,
- "fcp_drv_serr" - fcp_drv_serr,
- "fcp_drv_wdt" - fcp_drv_wdt,
- "fcp_gen" - fcp_gen,
- "fcp_init" - fcp_init,
- "fcp_lip_limit_thr" - fcp_lip_limit_thr,
- "fcp_lip_rate_thr" - fcp_lip_rate_thr,
- "fcp_lip7" - fcp_lip7,
- "fcp_lilp" - fcp_lilp,
- "fcp_man" - fcp_man,
- "fcp_no_drive" - fcp_no_drive,
- "fcp_other_thr" - fcp_other_thr,
- "fcp_rec_lnk" - fcp_rec_lnk,
- "fcp_rport" - fcp_rport,
- "fcp_slot_thr" - fcp_slot_thr,
- "fcp_snd_limit_thr" - fcp_snd_limit_thr,
- "fcp_snd_rate_thr" - fcp_snd_rate_thr,
- "fcp_snd_fault" - fcp_snd_fault,
- "diag_transmit" - diag_transmit,
- "inserted" - inserted,
- "loopback" - loopback,
- "status_unknown" - Status unknown,
- "warn_high_cfg_delta" - warn_high_cfg_delta,
- "warn_high_crc_rate" - warn_high_crc_rate,
- "warn_high_crc_thr" - warn_high_crc_thr,
- "warn_high_snd_rate" - warn_high_snd_rate,
- "warn_high_snd_thr" - warn_high_snd_thr,
- "warn_snd_limit" - warn_snd_limit,
- "phy_phy_cfg_fault" - phy_phy_cfg_fault,
- "phy_phy_crc_err" - phy_phy_crc_err,
- "phy_phy_crc_err_burst" - phy_phy_crc_err_burst,
- "phy_phy_disparity" - phy_phy_disparity,
- "phy_phy_disparity_burst" - phy_phy_disparity_burst,
- "phy_phy_disparity_burst2" - phy_phy_disparity_burst2,
- "phy_phy_disparity_burst_reserve" - phy_phy_disparity_burst_reserve,
- "phy_phy_invalid_dword" - phy_phy_invalid_dword,
- "phy_phy_invalid_dword_burst" - phy_phy_invalid_dword_burst,
- "phy_phy_loss_dword" - phy_phy_loss_dword,
- "phy_phy_loss_dword_burst" - phy_phy_loss_dword_burst,
- "phy_phy_man_smp" - phy_phy_man_smp,
- "phy_phy_reset" - phy_phy_reset,
- "disabled_removed" - Disabled/Removed,
- "empty" - Empty,
- "phy_phy_change" - phy_phy_phy_change,
- "phy_phy_phy_change_burst" - phy_phy_phy_change_burst,
- "phy_phy_phy_reset" - phy_phy_phy_reset,
- "phy_phy_phy_reset_burst" - phy_phy_phy_reset_burst,
- "disabled" - Phy is disabled or unusable,
- "enabled" - Phy is enabled,
- "phy_phy_unused" - phy_phy_unused,
- "phy_phy_unknown" - phy_phy_unknown,
- "unknown" - Unknown Phy,
- "phy_phy_illegal" - Disabled/Illegal

[more]

Element definition: **storage-shell-port-type** [more]

unknown|circle|square|ssf|disk|ioh|null|unrouted|host|dom|sas12|sas22h_fxcs_to_fcb_to_a Possible values:

- "unknown" - Port type is unknown,
- "circle" - Circle,
- "square" - Square,
- "ssf" - Ssf,
- "disk" - Disk,
- "ioh" - Ioh,
- "null" - Null,
- "unrouted" - Unused,
- "host" - Host,
- "dom" - DOM,
- "sas12" - Sas 1,
- "sas22h" - Sas 2,
- "fc_to" - fc-to,
- "a_to_b" - A to B,
- "b_to_a" - B to A

[more]

Element definition: **storage-shell-psu-op-status** [more]

unknown|normal|error|dc-over-voltage|dc-under-voltage|dc-over-current|over-temperature-error|failed|off|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "off" - Off Line,
- "dc_over_voltage" - DC Over Voltage,
- "dc_under_voltage" - DC Under Voltage,
- "dc_over_current" - DC Over Current,
- "over_temperature_error" - Over Temperature,
- "failed" - Failed,
- "off" - Off,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-temperature-op-status** [more]

unknown|normal|under-temperature|over-temperature|error|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "under_temperature" - Under Temperature,
- "over_temperature" - Over Temperature,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-voltage-op-status** [more]

unknown|normal|over-voltage-critical|under-voltage-critical|not-supported|not-installed|not-recoverable Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_voltage_critical" - Critical Over Voltage,
- "under_voltage_critical" - Critical Under Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed,
- "not_recoverable" - Not Recoverable

[more]

APIs in Category: **storage-shelf-firmware**

storage-shelf-firmware-file-get-iter	This is an auto generated category.

storage-shelf-firmware-file-get-iter

[top]

return the firmware file list

Input Name	Range	Type	Description
desired-attributes		storage-shelf-firmware-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-firmware-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware object. All storage-shelf-firmware objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-firmware-file[] optional	The list of attributes of storage-shelf-firmware objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf-firmware objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-shelf-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
filename		string optional	Storage Firmware File Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **storage-switch**

storage-switch-get
storage-switch-get-iter

These APIs enable the getting of values associated with storage switches that have been added for monitoring. These are read only APIs and hence require pre addition of switches for monitoring before these can be used. A storage switch is identified by it's name (set by the administrator and fetched over SNMP) and its information (that these APIs provide) is broadly categorised into following areas:

1. Profile Information: It includes information like switch's wwn, snmp-version, model, vendor etc. 2. Cooling Information: It includes information about switch's temperature sensors, power supply units and fans. 3. Connectivity Information: In includes information about the devices that are directly connected to the switch and the direct paths to it from the nodes. 4. Interface Information: It includes information about the switch's ports, their statistics and Small Form-factor Pluggables. 5. Configuration Information: It includes information about the VSANs and zones configured for the switch. 6. Error Information: It includes information about the errors occurred in the switch.

storage-switch-get

[top]

Get the attributes of the storage-switch.

Input Name	Range	Type	Description
desired-attributes		storage-switch-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	Name of the switch.

Output Name	Range	Type	Description
attributes		storage-switch-info	The attributes of the storage-switch.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-switch-get-iter

[top]

Iterate over a list of storage-switch objects.

Input Name	Range	Type	Description
desired-attributes		storage-switch-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-switch-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-switch object. All storage-switch objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-switch-info[] optional	The list of attributes of storage-switch objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-switch objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-switch-info**

[top]

Storage Switch When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
blades	**[0..2^32-1]**	integer[] optional	Blades to monitor on the switch. Attributes: optional-for-create, modifiable
domain-id	**[0..2^32-1]**	integer optional	Domain ID of the switch. Attributes: non-creatable, non-modifiable
fabric-name		string optional	Name of the fabric containing this switch. Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware Version of the switch. Attributes: non-creatable, non-modifiable
ip-address		ip-address optional	IP Address of the switch. Attributes: optional-for-create, modifiable

is-director-class		boolean optional	Is switch Director class SAN switch? Attributes: non-creatable, non-modifiable
is-local-attach		boolean optional	The switch is directly attached to the reporting cluster Attributes: non-creatable, non-modifiable
is-monitoring-enabled		boolean optional	Is monitoring enabled for the switch? Attributes: non-creatable, non-modifiable
model		string optional	Model of the switch. Attributes: non-creatable, non-modifiable
name		string optional	Name of the switch. Attributes: key, required-for-create, non-modifiable
role		storage-switch-role optional	Role of switch in the fabric. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Switch Role Unknown, • "primary" - Switch has Primary Role, • "subordinate" - Switch has Subordinate Role
status		storage-device-status optional	Status of the switch. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Device Status Unknown, • "ok" - Device Status Ok, • "error" - Device Status Erroneous
storage-switch-connectivity-list		storage-switch-connectivity-info[] optional	Information about the individual connection.
storage-switch-error-list		storage-switch-error-info[] optional	Information about the individual error.
storage-switch-fan-list		storage-switch-fan-info[] optional	Information about individual fan.
storage-switch-path-list		storage-switch-path-info[] optional	Information about the individual path.
storage-switch-port-list		storage-switch-port-info[] optional	Information about the individual port.
storage-switch-port-statistics-list		storage-switch-port-statistics-info[] optional	Information about the port statistics.
storage-switch-power-supply-unit-list		storage-switch-power-supply-unit-info[] optional	Information about individual power supply unit.
storage-switch-sfp-list		storage-switch-sfp-info[] optional	Information about the individual port sfp.
storage-switch-temperature-sensor-list		temperature-sensor-info[] optional	Information about the individual temperature sensor.
storage-switch-vsan-list		storage-switch-vsan-info[] optional	Information about the individual vsan.
		storage-switch-	

storage-switch-zone-list		zone-info[] optional	Information about the individual zones.
symbolic-name		string optional	If set, symbolic name of the switch, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable
vendor		storage-switch-vendor optional	Vendor of the switch. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "brocade" , • "cisco"
wwn		string optional	World Wide Name of the switch. Attributes: non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

Element definition: **storage-switch-connectivity-info**

[top]

Information about the individual connection.

Name	Range	Type	Description
peer-info		string optional	Information describing the peer device that is connected to the port. Attributes: non-creatable, non-modifiable
peer-port-wwn		string optional	World Wide Name of the peer port that is connected to the port. Attributes: non-creatable, non-modifiable
peer-type		storage-switch-port-	Type of peer device that is connected to the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "bridge" - Bridge,

		peer-type optional	"switch" - Switch, • "fcp_adapter" - FCP Adapter Port, • "fcvi_adapter" - FCVI Adapter Port
peer-unique-id		string optional	Unique textual representation of the peer that is connected to the port. It is UUID of the node hosting the adapter if the peer-type is fcp-initiator or fcvi-initiator, World Wide Name otherwise. Attributes: non-creatable, non-modifiable
port-mode		storage-switch-port-mode optional	Operating mode of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "auto" - Auto, • "f_port" - Fabric Port, • "fl_port" - Fabric Loop Port, • "e_port" - ISL Port, • "te_port" - Trunking ISL Port, • "u_port" - Universal Port, • "g_port" - Generic Port, • "other" - Other, • "ex_port" - Routing ISL Port, • "d_port" - Diagnostic Port, • "sim_port" - Port Simulator Port, • "ve_port" - Virtual E-Port, • "ae_port" - Analytics E-Port, • "af_port" - Analytics F-Port
port-name		string optional	Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable
port-wwn		string optional	World Wide Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-error-info**

[top]

Information about the individual error.

Name	Range	Type	Description
error-message		string optional	Text describing the error present in the switch. Attributes: non-creatable, non-modifiable
severity		storage-switch-error-severity optional	Severity of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Severity Unknown, • "notice" - Notice, • "warning" - Warning, • "error" - Error
switch-component-id	**[0..2^32-1]**	integer optional	Name of the switch component with error. Attributes: non-creatable, non-modifiable
switch-component-name		string optional	Switch Component Name List Attributes: non-creatable, non-modifiable
			Type of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values:

type		storage-switch-error-type optional	• "switch_unreachable" - Switch is Unreachable over Management Network, • "temp_above_warning_level" - Switch Temperature Above Warning Level, • "temp_above_critical_level" - Switch Temperature Above Critical Level, • "temp_below_warning_level" - Switch Temperature Below Warning Level, • "temp_below_critical_level" - Switch Temperature Below Critical Level, • "temp_sensor_status_failed" - Temperature Sensor is Failed, • "fan_status_non_operational" - Fan is Non-operational, • "power_supply_status_failed" - Power Supply Unit has Failed, • "power_above_warning_level" - Voltage Above Warning Level, • "power_above_critical_level" - Voltage Above Critical Level, • "power_below_warning_level" - Voltage Below Warning Level, • "power_below_critical_level" - Voltage Below Critical Level, • "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level, • "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level, • "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level, • "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level, • "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level, • "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level, • "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level, • "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level, • "sfp_status_failed" - SFP has Failed, • "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings, • "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable, • "fan_status_unavailable" - Fan Status is Unavailable, • "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed, • "power_supply_status_unavailable" - Power Supply Status is Unavailable, • "unknown" - Unknown, • "power_supply_off_env_other" - Power Supply is off because of unknown problem, • "power_supply_off_admin" - Power Supply is administratively off, • "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient, • "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU, • "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem,

			• "power_supply_off_env_fan" - Power Supply is powered off because of fan problems, • "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed, • "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity, • "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded, • "e_ports_down" - All E-ports are down for this blade/switch, • "snmpv3_user_not_configured" - SNMPv3 user is not configured, • "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete

Element definition: **storage-switch-fan-info**

[top]

Information about individual fan.

Name	Range	Type	Description
name		string optional	Name of the fan. Attributes: non-creatable, non-modifiable
operational-status		storage-switch-fan-oper-status optional	Operational status of the fan. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "operational" , • "failed" , • "not_operational" , • "not_present"
speed	**[0..2^32-1]**	integer optional	Speed of the fan in RPM. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-path-info**

[top]

Information about the individual path.

Name	Range	Type	Description
adapter-name		string optional	Name of the adapter in the node that to which the switch is connected. Attributes: non-creatable, non-modifiable
adapter-type		storage-switch-initiator-type optional	Node Adapter Type List Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "fcp_initiator" , • "fc_vi" , • "fcp_target"

node-name		filer-id optional	Name of the node to which the switch is connected. Attributes: non-creatable, non-modifiable
switch-port-name		string optional	Name of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable
switch-port-speed	**[0..2^32-1]**	integer optional	Speed (in Gbps) of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-port-info**

[top]

Information about the individual port.

Name	Range	Type	Description
administrative-status		storage-switch-port-admin-status optional	Administrative status of the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "enabled" , • "disabled"
bb-credit	**[0..2^32-1]**	integer optional	BB credit of the port. Attributes: non-creatable, non-modifiable
is-sfp-present		boolean optional	Is SFP present in the port? Attributes: non-creatable, non-modifiable
mode		storage-switch-port-mode optional	Operating mode of the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "auto" - Auto, • "f_port" - Fabric Port, • "fl_port" - Fabric Loop Port, • "e_port" - ISL Port, • "te_port" - Trunking ISL Port, • "u_port" - Universal Port, • "g_port" - Generic Port, • "other" - Other, • "ex_port" - Routing ISL Port, • "d_port" - Diagnostic Port, • "sim_port" - Port Simulator Port, • "ve_port" - Virtual E-Port, • "ae_port" - Analytics E-Port, • "af_port" - Analytics F-Port
name		string optional	Name of the port. Attributes: non-creatable, non-modifiable
operational-speed	**[0..2^32-1]**	integer optional	Operational speed of the port in Gbps. Attributes: non-creatable, non-modifiable
operational-status		storage-switch-port-oper-status optional	Operational status of the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"

peer-port-wwn		string optional	Port's Peer port world wide name. Attributes: non-creatable, non-modifiable
wwn		string optional	World Wide Name of the port. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-port-statistics-info**

[top]

Information about the port statistics.

Name	Range	Type	Description
frame-error-count	**[0..2^32-1]**	integer optional	Frame error count for the port. Attributes: non-creatable, non-modifiable
name		string optional	Name of the port. Attributes: non-creatable, non-modifiable
rx-frames-count	**[0..2^32-1]**	integer optional	Number of frames received by the port. Attributes: non-creatable, non-modifiable
rx-octets-count	**[0..2^32-1]**	integer optional	Number of octets received by the port. Attributes: non-creatable, non-modifiable
tx-frames-count	**[0..2^32-1]**	integer optional	Number of frames transmitted by the port. Attributes: non-creatable, non-modifiable
tx-octets-count	**[0..2^32-1]**	integer optional	Number of octets transmitted by the port. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-power-supply-unit-info**

[top]

Information about individual power supply unit.

Name	Range	Type	Description
name		string optional	Name of power supply unit. Attributes: non-creatable, non-modifiable
operational-status		storage-switch-power-sensor-status optional	Operational status of power supply unit. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Power Status Unknown, • "normal" - Power Status Normal, • "warning" - Power Status Warning, • "faulty" - Power Sensor is faulty, • "not_present" - Power Sensor is not present
serial-number		string optional	Serial number of power supply unit. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-role**

[top]

unknown|primary|subordinate Possible values:

"unknown" - Switch Role Unknown,
- "primary" - Switch has Primary Role,
- "subordinate" - Switch has Subordinate Role

[none]

Element definition: **storage-switch-sfp-info**

[top]

Information about the individual port sfp.

Name	Range	Type	Description
part-number		string optional	Part number of SFP. Attributes: non-creatable, non-modifiable
port-name		string optional	Name of the port. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of SFP. Attributes: non-creatable, non-modifiable
transmitter-type		storage-switch-sfp-tx-type optional	Transmitter type of SFP. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown transmitter type., • "long_wave_laser" - Long wave laser., • "short_wave_laser" - Short wave laser., • "long_wave_laser_cost_reduced" - Cost reduced long wave laser., • "electrical" - Electrical., • "ten_gig_base_sr" - 10 gigabit base short range transceiver., • "ten_gig_base_lr" - 10 gigabit base long range transceiver., • "ten_gig_base_er" - 10 gigabit base extended range transceiver., • "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature., • "ten_gig_base_sw" - 10 gigabit base short wave transceiver., • "ten_gig_base_lw" - 10 gigabit base long wave transceiver., • "ten_gig_base_ew" - 10 gigabit base extended wave transceiver.
			Type of SFP. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown type., • "other" - Other than the types listed here., • "gbic" - Gigabit interface card., • "embedded" - Unremovable gigabit interface card., • "glm" - Gigabit link module., • "gbic_with_serial_id" - Gigabit interface card with serial ID., • "gbic_without_serial_id" - Gigabit interface card without serial ID., • "sfp_with_serial_id" - Small form factor pluggable with serial ID.,

type		storage-switch-sfp-type optional	• "sfp_without_serial_id" - Small form factor pluggable without serial ID., • "xfp" - 10 gigabit small form factor pluggable transceiver., • "x2_short" - X2 short., • "x2_medium" - X2 medium., • "x2_tall" - X2 tall., • "xpak_short" - Xpak short., • "xpak_medium" - Xpak medium., • "xpak_tall" - Xpak tall., • "xenpak" - Xenpak, • "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing., • "qsfp" - Quad small form factor pluggable., • "x2_dw_dm" - X2 dense wavelength division multiplexing., • "gbic_not_installed" - Gigabit interface card is not installed., • "small_form_factor" - Small form factor.
vendor		string optional	Vendor of SFP. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-vendor**

[top]

unknown|Brocade|Cisco Possible values:

- "unknown" ,
- "brocade" ,
- "cisco"

[none]

Element definition: **storage-switch-vsan-info**

[top]

Information about the individual vsan.

Name	Range	Type	Description
index	**[0..2^32-1]**	integer optional	Index of the VSAN. Attributes: non-creatable, non-modifiable
is-iod-set		boolean optional	Is in order delivery set for the VSAN? Attributes: non-creatable, non-modifiable
load-balancing-type		storage-switch-vsan-load-balancing-type optional	Load balancing type set in the VSAN. Attributes: non-creatable, non-modifiable Possible values: • "src_id_dest_id" - Based on source ID and destination ID., • "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID.
name		string optional	Name of the VSAN. Attributes: non-creatable, non-modifiable
			Operational status of the VSAN. Attributes: non-

operational-status		storage-switch-vsan-oper-state optional	creatable, non-modifiable Possible values: • "up" , • "down"

Element definition: **storage-switch-zone-info**

[top]

Information about the individual zones.

Name	Range	Type	Description
member-port-id		string optional	ID of the member port participating in the zone. Attributes: non-creatable, non-modifiable
member-port-name		string optional	Name of the port participating in the zone. Attributes: non-creatable, non-modifiable
member-port-switch-name		string optional	Name of the switch that contains the port participating in the zone. Attributes: non-creatable, non-modifiable
member-wwn		string optional	World wide name of the member participating in the zone. Attributes: non-creatable, non-modifiable
name		string optional	Name of the zone. Attributes: non-creatable, non-modifiable
vsan-id	**[1..4094]**	integer optional	Identifier of the VSAN to which the zone belongs. Attributes: non-creatable, non-modifiable

Element definition: **temperature-sensor-info**

[top]

Information about the individual temperature sensor.

Name	Range	Type	Description
name		string optional	Name of the temperature sensor. Attributes: non-creatable, non-modifiable
status		storage-switch-temp-sensor-status optional	Operational status of the temperature sensor. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "normal" , • "warning" , • "critical"
temperature-reading	**[-2^31..2^31-1]**	integer optional	Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **storage-switch-error-severity**

[top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

Element definition: **storage-switch-error-type**

[top]

switch-unreachable|temp-above-warning-level|temp-above-critical-level|temp-below-warning-level|temp-below-critical-level|temp-sensor-status-failed|fan-status-non-operational|power-supply-status-failed|power-above-warning-level|power-above-critical-level|power-below-warning-level|power-below-critical-level|sfp-rx-power-above-warning-level|sfp-rx-power-above-critical-level|sfp-tx-power-above-warning-level|sfp-tx-power-above-critical-level|sfp-rx-power-below-warning-level|sfp-rx-power-below-critical-level|sfp-tx-power-below-warning-level|sfp-tx-power-below-critical-level|sfp-status-failed|vsan-invalid-frame-delivery-configuration|temp-sensor-status-unavailable|fan-status-unavailable|power-supply-inline-power-failed|power-supply-status-unavailable|unknown|power-supply-off-env-other|power-supply-off-admin|power-supply-off-denied|power-supply-off-env-power|power-supply-off-env-temp|power-supply-off-env-fan|power-supply-on-but-fan-fail|power-supply-off-cooling|power-supply2 :tor- ating|e-ports-down|snmpv3-user-not-configured|incomplete-snmp-data-refresh Possible values:

- "switch_unreachable" - Switch is Unreachable over Management Network,
- "temp_above_warning_level" - Switch Temperature Above Warning Level,
- "temp_above_critical_level" - Switch Temperature Above Critical Level,
- "temp_below_warning_level" - Switch Temperature Below Warning Level,
- "temp_below_critical_level" - Switch Temperature Below Critical Level,
- "temp_sensor_status_failed" - Temperature Sensor is Failed,
- "fan_status_non_operational" - Fan is Non-operational,
- "power_supply_status_failed" - Power Supply Unit has Failed,
- "power_above_warning_level" - Voltage Above Warning Level,
- "power_above_critical_level" - Voltage Above Critical Level,
- "power_below_warning_level" - Voltage Below Warning Level,
- "power_below_critical_level" - Voltage Below Critical Level,
- "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_status_failed" - SFP has Failed,
- "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,

"fan_status_unavailable" - Fan Status is Unavailable,
- "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed,
- "power_supply_status_unavailable" - Power Supply Status is Unavailable,
- "unknown" - Unknown,
- "power_supply_off_env_other" - Power Supply is off because of unknown problem,
- "power_supply_off_admin" - Power Supply is administratively off,
- "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient,
- "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU,
- "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem,
- "power_supply_off_env_fan" - Power Supply is powered off because of fan problems,
- "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed,
- "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity,
- "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded,
- "e_ports_down" - All E-ports are down for this blade/switch,
- "snmpv3_user_not_configured" - SNMPv3 user is not configured,
- "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete

[none]

Element definition: **storage-switch-fan-oper-status**

[top]

unknown|operational|failed|not-operational|not-present Possible values:

- "unknown" ,
- "operational" ,
- "failed" ,
- "not_operational" ,
- "not_present"

[none]

Element definition: **storage-switch-initiator-type**

[top]

unknown|FCP-Initiator|FC-VI|FCP-Target Possible values:

- "unknown" ,
- "fcp_initiator" ,
- "fc_vi" ,
- "fcp_target"

[none]

Element definition: **storage-switch-port-admin-status**

[top]

unknown|enabled|disabled Possible values:

- "unknown" ,
- "enabled" ,
- "disabled"

[none]

Element definition: **storage-switch-port-mode**

[top]

unknown|auto|F-port|FL-port|E-port|TE-port|U-port|G-port|other|EX-port|D-port|SIM-port|VE-port|AE-port|AF-port Possible values:

- "unknown" - Unknown,
- "auto" - Auto,
- "f_port" - Fabric Port,
- "fl_port" - Fabric Loop Port,
- "e_port" - ISL Port,
- "te_port" - Trunking ISL Port,
- "u_port" - Universal Port,
- "g_port" - Generic Port,
- "other" - Other,
- "ex_port" - Routing ISL Port,
- "d_port" - Diagnostic Port,
- "sim_port" - Port Simulator Port,
- "ve_port" - Virtual E-Port,
- "ae_port" - Analytics E-Port,
- "af_port" - Analytics F-Port

[none]

Element definition: **storage-switch-port-oper-status**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

Element definition: **storage-switch-port-peer-type**

[top]

unknown|bridge|switch|fcp-adapter|fcvi-adapter Possible values:

- "unknown" - Unknown,
- "bridge" - Bridge,

- "switch" - Switch,
- "fcp_adapter" - FCP Adapter Port,
- "fcvi_adapter" - FCVI Adapter Port

[none]

Element definition: **storage-switch-power-sensor-status**

[top]

unknown|normal|warning|faulty|not-present Possible values:

- "unknown" - Power Status Unknown,
- "normal" - Power Status Normal,
- "warning" - Power Status Warning,
- "faulty" - Power Sensor is faulty,
- "not_present" - Power Sensor is not present

[none]

Element definition: **storage-switch-sfp-tx-type**

[top]

unknown|long-wave-laser|short-wave-laser|long-wave-laser-cost-reduced|electrical|ten-gig-base-sr|ten-gig-base-lr|ten-gig-base-er|ten-gig-base-lx4|ten-gig-base-sw|ten-gig-base-lw|ten-gig-base-ew Possible values:

- "unknown" - Unknown transmitter type.,
- "long_wave_laser" - Long wave laser.,
- "short_wave_laser" - Short wave laser.,
- "long_wave_laser_cost_reduced" - Cost reduced long wave laser.,
- "electrical" - Electrical.,
- "ten_gig_base_sr" - 10 gigabit base short range transceiver.,
- "ten_gig_base_lr" - 10 gigabit base long range transceiver.,
- "ten_gig_base_er" - 10 gigabit base extended range transceiver.,
- "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature.,
- "ten_gig_base_sw" - 10 gigabit base short wave transceiver.,
- "ten_gig_base_lw" - 10 gigabit base long wave transceiver.,
- "ten_gig_base_ew" - 10 gigabit base extended wave transceiver.

[none]

Element definition: **storage-switch-sfp-type**

[top]

unknown|other|gbic|embedded|glm|gbic-with-serial-id|gbic-without-serial-id|sfp-with-serial-id|sfp-without-serial-id|xfp|x2-short|x2-medium|x2-tall|xpak-short|xpak-medium|xpak-tall|xenpak|sfp-dw-dm|qsfp|x2-dw-dm|gbic-not-installed|small-form-factor Possible values:

- "unknown" - Unknown type.,
- "other" - Other than the types listed here.,

- "gbic" - Gigabit interface card.,
- "embedded" - Unremovable gigabit interface card.,
- "glm" - Gigabit link module.,
- "gbic_with_serial_id" - Gigabit interface card with serial ID.,
- "gbic_without_serial_id" - Gigabit interface card without serial ID.,
- "sfp_with_serial_id" - Small form factor pluggable with serial ID.,
- "sfp_without_serial_id" - Small form factor pluggable without serial ID.,
- "xfp" - 10 gigabit small form factor pluggable transceiver.,
- "x2_short" - X2 short.,
- "x2_medium" - X2 medium.,
- "x2_tall" - X2 tall.,
- "xpak_short" - Xpak short.,
- "xpak_medium" - Xpak medium.,
- "xpak_tall" - Xpak tall.,
- "xenpak" - Xenpak,
- "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing.,
- "qsfp" - Quad small form factor pluggable.,
- "x2_dw_dm" - X2 dense wavelength division multiplexing.,
- "gbic_not_installed" - Gigabit interface card is not installed.,
- "small_form_factor" - Small form factor.

[none]

Element definition: **storage-switch-temp-sensor-status**

[top]

unknown|normal|warning|critical Possible values:

- "unknown" ,
- "normal" ,
- "warning" ,
- "critical"

[none]

Element definition: **storage-switch-vsan-load-balancing-type**

[top]

src-id-dest-id|src-id-dest-id-ox-id Possible values:

- "src_id_dest_id" - Based on source ID and destination ID.,
- "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID.

[none]

Element definition: **storage-switch-vsan-oper-state**

[top]

up|down Possible values:

- "up" ,
- "down"

[none]

APIs in Category: **system**

external-cache-get
external-cache-modify
system-api-get-elements
system-api-list
system-api-list-types
system-available-replication-transfers
system-cache-mirror-disable
system-cache-mirror-enable
system-cache-mirror-get
system-cache-mirror-get-iter
system-get-info
system-get-node-info-iter
system-get-ontapi-version
system-get-vendor-info
system-get-version
system-hypervisor-host-config-create
system-hypervisor-host-config-destroy
system-hypervisor-host-config-get
system-hypervisor-host-config-get-iter
system-hypervisor-host-config-modify
system-hypervisor-snmpv3-config-create
system-hypervisor-snmpv3-config-destroy
system-hypervisor-snmpv3-config-get
system-hypervisor-snmpv3-config-get-iter
system-hypervisor-snmpv3-config-modify
system-hypervisor-uplink-mapping-create
system-hypervisor-uplink-mapping-destroy
system-hypervisor-uplink-mapping-get
system-hypervisor-uplink-mapping-modify
system-image-external-package-delete
system-image-external-package-get-iter
system-image-fetch-package
system-image-get-iter
system-image-modify
system-image-package-delete
system-image-package-get-iter
system-image-update
system-image-update-get-abort
system-image-update-progress-get
system-node-discovery-get-iter
system-node-get
system-node-get-iter
system-node-modify
system-node-power-cycle
system-node-power-get
system-node-power-off
system-node-power-on
system-node-reboot
system-node-rename

system-node-reset
system-node-shutdown
system-services-web-get
system-services-web-node-get
system-services-web-node-get-iter
system-set-new-ontap-version-downloaded
system-set-node-stable-after-startup
system-user-capability-get-iter

external-cache-get

[top]

Get the cluster-wide EC QoS settings.

Input Name	Range	Type	Description
desired-attributes		external-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		external-cache-info	The attributes of the external-cache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

external-cache-modify

[top]

Modify the existing cluster-wide EC QoS settings.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Enabled?
is-hya-enabled		boolean optional	Is HyA Caching Enabled?
is-rewarm-enabled		boolean optional	Is Rewarm On?
node		node-name	Node
pcs-size	**[0..2^32-1]**	integer optional	PCS Size

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	

system-api-get-elements

[top]

get elements for specified apis

Input Name	Range	Type	Description
api-list		api-list-info[]	list of apis to retrieve

Output Name	Range	Type	Description
api-entries		system-api-entry-info[]	

Errno	Description
EAPIERROR	

Vfiler-enabled
Yes

system-api-list

[top]

get list of apis. This returns the names only - to get the parameter info, use system-api-get-elements

Output Name	Range	Type	Description
apis		system-api-info[]	

Errno	Description
EAPIERROR	

Vfiler-enabled
Yes

system-api-list-types

[top]

get list and description of typedefs

Output Name	Range	Type	Description
type-entries		system-api-type-entry-info[]	

Vfiler-enabled
Yes

system-available-replication-transfers

[top]

Provide a mechanism to calculate the number of replication operations that could be started. Returns the number of replication operations that could be started for each replication type. Another output is the maximum number of transfers for each replication type.

Output Name	Range	Type	Description
replication-transfer-table		replication-transfer-info[]	Table with entries mapping each replication operation to number of transfers which could be started.

Vfiler-enabled
Yes

system-cache-mirror-disable

[top]

Disable Cache Mirror

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-cache-mirror-enable

[top]

Enable Cache Mirror

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-cache-mirror-get

[top]

Get the attributes of Cache Mirror Settings.

Input Name	Range	Type	Description
desired-attributes		cache-mirror optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
		node-	

node		name	Node

Output Name	Range	Type	Description
attributes		cache-mirror	The attributes of the system-cache-mirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-cache-mirror-get-iter

[top]

Iterate over a list of Cache Mirror Settings.

Input Name	Range	Type	Description
desired-attributes		cache-mirror optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cache-mirror optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-cache-mirror object. All system-cache-mirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cache-mirror[] optional	The list of attributes of system-cache-mirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-cache-mirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-get-info

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included.

Output Name	Range	Type	Description

system-info		system-info	

Vfiler-enabled
Yes

system-get-node-info-iter

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included. System refers to a node in a cluster.

Input Name	Range	Type	Description
desired-attributes		system-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		system-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-info object. All system-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-info[] optional	The list of attributes of system-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-info objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-get-ontapi-version

[top]

Obtain the current ONTAPI major and minor versions.

Output Name	Range	Type	Description
major-version		integer	Current ONTAPI major version supported by this appliance.
minor-version		integer	Current ONTAPI minor version supported by this appliance.

node-ontapi-details		node-ontapi-detail-info[] optional	List of nodes along with the ONTAPI versions supported by each of them.

Vfiler-enabled
Yes

system-get-vendor-info

[top]

Obtain the Data ONTAP vendor information.

Output Name	Range	Type	Description
autosupport-email		string	Vendor's AutoSupport e-mail target.
autosupport-url		string	Vendor's AutoSupport URL target.
complete-name		string	Complete name of vendor.
customer-support-contact		string	Vendor's technical support contact information.
customer-support-name		string	Name of vendor's customer support organization.
information-url		string	Vendor's AutoSupport information URL.
ontap-oid-prefix		string	Vendor's starting SNMP OID prefix for Data ONTAP. The suffix that follows is the storage system MIB. For example, ".1.3.6.1.4.1.789". To obtain the filer's model name, one would concatenate the OID prefix and ".1.1.5.0" from the storage system MIB.
product-url		string	Vendor's installed product information URL.
short-name		string	Vendor's short name.

Errno	Description
EAPIERROR	

Vfiler-enabled
Yes

system-get-version

[top]

Obtain the Data ONTAP version.

Output Name	Range	Type	Description
build-timestamp		integer optional	Time of build creation, in seconds since January 1, 1970, of the image running on the appliance or of the build whose Data ONTAP version is lowest across the cluster. This field is available in Data ONTAP 8.1 or

			later.
is-clustered		boolean	If true, indicates Data ONTAP Cluster-Mode, else Data ONTAP 7-Mode. This field is available in Data ONTAP 8.1 or later.
node-kernel-info-details		system-node-kernel-info[] optional	List of all diagnostics and firmware related files of a node.
node-version-details		node-version-detail-info[] optional	List of node names along with the Data ONTAP version running on each node. This field is returned only if the cluster is currently operating with more than one version of Data ONTAP.
version		string	Current Data ONTAP version running on the appliance. If the cluster is currently operating with more than one version of Data ONTAP, then the lowest version of all is returned.
version-tuple		system-version-tuple optional	The Data ONTAP version tuple, lowest across the cluster i.e. the effective cluster version. This field is available in Data ONTAP 8.1 or later.

Vfiler-enabled
Yes

system-hypervisor-host-config-create

[top]

Create the hypervisor host config.

Input Name	Range	Type	Description
address-ipv4		ip-address	Address
node		filer-id	Node
port-ipv4	**[0..2^32-1]**	integer optional	UDP Port
return-record		boolean optional	If set to true, returns the Hypervisor Host Config on successful creation. Default: false

Output Name	Range	Type	Description
result		system-hypervisor-host-config-info optional	The Hypervisor Host Config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

system-hypervisor-host-config-destroy

[top]

Destroy the hypervisor host config.

Input Name	Range	Type	Description
node		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-host-config-get

[top]

Get the attributes of the hypervisor host config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-host-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node

Output Name	Range	Type	Description
attributes		system-hypervisor-host-config-info	The attributes of the Hypervisor Host Config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-host-config-get-iter

[top]

Iterate over the attributes of the hypervisor host config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-host-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-hypervisor-host-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Hypervisor Host Config object. All Hypervisor Host Config objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for

tag		string optional	the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-hypervisor-host-config-info[] optional	The list of attributes of Hypervisor Host Config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Hypervisor Host Config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-hypervisor-host-config-modify

[top]

Modify the hypervisor host config.

Input Name	Range	Type	Description
address-ipv4		ip-address optional	Address
node		filer-id	Node
port-ipv4	**[0..2^32-1]**	integer optional	UDP Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-snmpv3-config-create

[top]

Create the hypervisor snmpv3 config.

Input Name	Range	Type	Description
auth-password		string optional	Authentication Password
auth-protocol		string optional	Authentication Protocol
engine-id		string optional	Engine ID
node		filer-id	Node
priv-protocol		string optional	Private Protocol

return-record		boolean optional	If set to true, returns the Hypervisor SNMPv4 Config on successful creation. Default: false
snmp-trapport	**[0..2^32-1]**	integer optional	SNMP Trap Port
username		string	Username

Output Name	Range	Type	Description
result		system-hypervisor-snmpv3-config-info optional	The Hypervisor SNMPv4 Config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

system-hypervisor-snmpv3-config-destroy

[top]

Destroy the hypervisor snmpv3 config.

Input Name	Range	Type	Description
node		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-snmpv3-config-get

[top]

Get the attributes of the hypervisor snmpv3 config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-snmpv3-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node

Output Name	Range	Type	Description
attributes		system-hypervisor-snmpv3-config-info	The attributes of the Hypervisor SNMPv4 Config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-snmpv3-config-get-iter

[top]

Iterate over the attributes of the hypervisor snmpv3 config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-snmpv3-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		system-hypervisor-snmpv3-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Hypervisor SNMPv4 Config object. All Hypervisor SNMPv4 Config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-hypervisor-snmpv3-config-info[] optional	The list of attributes of Hypervisor SNMPv4 Config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Hypervisor SNMPv4 Config objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-hypervisor-snmpv3-config-modify

[top]

Modify the hypervisor snmpv3 config.

Input Name	Range	Type	Description
auth-password		string optional	Authentication Password
auth-protocol		string optional	Authentication Protocol
engine-id		string optional	Engine ID
node		filer-id	Node

priv-protocol		string optional	Private Protocol
snmp-trapport	**[0..2^32-1]**	integer optional	SNMP Trap Port
username		string optional	Username

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-uplink-mapping-create

[top]

Create the hypervisor uplink mapping.

Input Name	Range	Type	Description
node		filer-id	Node
port		net-port	Port
return-record		boolean optional	If set to true, returns the Hypervisor Uplink Mapping on successful creation. Default: false
uplinks		string[]	Uplink Mapping

Output Name	Range	Type	Description
result		system-hypervisor-uplink-mapping-info optional	The Hypervisor Uplink Mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

system-hypervisor-uplink-mapping-destroy

[top]

Destroy the hypervisor uplink mapping.

Input Name	Range	Type	Description
node		filer-id	Node
port		net-port	Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-uplink-mapping-get

[top]

Get the attributes of a hypervisor uplink mapping.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-uplink-mapping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node
port		net-port	Port

Output Name	Range	Type	Description
attributes		system-hypervisor-uplink-mapping-info	The attributes of the Hypervisor Uplink Mapping.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-uplink-mapping-modify

[top]

Modify the hypervisor uplink mapping.

Input Name	Range	Type	Description
node		filer-id	Node
port		net-port	Port
uplinks		string[] optional	Uplink Mapping

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-external-package-delete

[top]

Delete file on external device

Input Name	Range	Type	Description
device		externaldevice	Device Possible values: • "usb0" - external USB port 0, • "usb1" - external USB port 1

node		string	Node
package		string	File Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-external-package-get-iter

[top]

Display file listing on external device

Input Name	Range	Type	Description
desired-attributes		system-image-external-package-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-image-external-package-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-image-external-package-attributes[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-image-fetch-package

[top]

Fetch a file from a URL. This API will return immediately. The progress can be monitored using the

'system-image-update-progress-get' API.

Input Name	Range	Type	Description
node		string	Node
package		string	Package URL
rename-package		string optional	Rename the File
replace-package		boolean optional	Replace the Local File

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-get-iter

[top]

Display software image information

Input Name	Range	Type	Description
desired-attributes		system-image-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-image-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-image-attributes[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-image-modify

[top]

Modify software image configuration

Input Name	Range	Type	Description
image		string	Image Name
is-default		boolean optional	Is Default Image
node		string	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-package-delete

[top]

Delete a software package

Input Name	Range	Type	Description
node		string	Node
package		string	Package File Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-package-get-iter

[top]

Display software information for all packages

Input Name	Range	Type	Description
desired-attributes		system-image-package-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-image-package-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		system-	

attributes-list		image-package-attributes[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-image-update

[top]

Perform software image upgrade/downgrade. This API will return immediately. The progress can be monitored using the 'system-image-update-progress-get' API.

Input Name	Range	Type	Description
ignore-compatibility		boolean optional	Ignore Version Compatibility Checking
ignore-offline		boolean optional	Ignore Offline Aggregates and Volumes
node		string	Node
package		string	Package URL
rename-package		string optional	Rename the File
replace		string optional	Image to Replace
replace-package		boolean optional	Replace the Local File
setdefault		boolean optional	Set Newly Updated Image as Default
validate-only		boolean optional	Validate the Package before Installation

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-update-get-abort

[top]

Abort software image update or get operation

Input Name	Range	Type	Description
node		node-name	Node

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-update-progress-get

[top]

Show progress information for current or previous update

Input Name	Range	Type	Description
node		node-name	Node

Output Name	Range	Type	Description
exit-message		string optional	Exit Message
exit-status		string optional	Exit Status
last-message		string optional	Internal message
phase		string optional	Phase
run-status		string optional	Run Status

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-discovery-get-iter

[top]

Get the discovered nodes sequentially. This returns all unconfigured nodes and all cluster nodes found within the local cluster network.

Input Name	Range	Type	Description
desired-attributes		system-node-discovery optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		system-node-discovery optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node-discovery object. All system-node-discovery objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		system-node-discovery[] optional	The list of attributes of system-node-discovery objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-node-discovery objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-node-get

[top]

Obtain the node information when the node is part of a cluster. Information returned includes details like location, serial-number, asset tag, uptime, vendor name etc.

Input Name	Range	Type	Description
desired-attributes		node-details-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The textual name of a node.

Output Name	Range	Type	Description
attributes		node-details-info	The attributes of the system-node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-get-iter

[top]

Obtain the node information when the node is a part of the cluster in an iteration.

Input Name	Range	Type	Description
desired-attributes		node-details-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		node-details-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node object. All system-node objects matching this query up to 'max-records' will be

		optional	returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		node-details-info[] optional	The list of attributes of system-node objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-node objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-node-modify

[top]

Modify the node information when the node is a part of the cluster.

Input Name	Range	Type	Description
is-diff-svcs		boolean optional	Is this node part of differentiated services storage infrastructure.
node		node-name	The textual name of a node.
node-asset-tag		string optional	The asset tag of the node.
node-location		string optional	The physical location of the node. For example, Sunnyvale.
node-owner		string optional	The owner of the node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-cycle

[top]

Remote Node Power Cycle

Input Name	Range	Type	Description
node		node-name	Node which needs to be power cycled

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-get

[top]

Get power status information about a node

Input Name	Range	Type	Description
desired-attributes		system-node-power-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Target node for the operation

Output Name	Range	Type	Description
attributes		system-node-power-info	The attributes of the system-node-power.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-off

[top]

Remote Node Power Off

Input Name	Range	Type	Description
node		node-name	Node which needs to be powered off

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-on

[top]

Remote Node Power On

Input Name	Range	Type	Description
node		node-name	Node which needs to be powered on

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	

system-node-reboot

[top]

Reboot the specified node. Only an admin can reboot the node. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

Input Name	Range	Type	Description
ignore-quorum-warnings		boolean optional	Skip quorum check before reboot.
ignore-strict-sync-warnings		boolean optional	Skip SnapMirror Synchronous Strict Sync check before reboot.
is-dump		boolean optional	If 'true', a core dump will be created. Default value is 'true'.
is-inhibit-takeover		boolean optional	If 'true', storage takeover by partner will be disallowed. Default value is 'true'.
is-skip-lif-migration-before-reboot		boolean optional	If 'true', skip migrating LIFs away from this node prior to reboot. Default value is 'true'.
node		string	Node to reboot.
reason		string optional	Reason for reboot.

Errno	Description
EOBJECTNOTFOUND	
EAPIPRIVILEGE	
EINTERNALERROR	
E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN	
E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM	
E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM	
E_FOLLOW_UPGRADE_PROCEDURE	
E_RESET_DEFAULT_IMAGE_UPGRADE	
E_RESET_DEFAULT_IMAGE_REVERT	

system-node-rename

[top]

Rename the specified node to a new name specified by 'new-name'

Input Name	Range	Type	Description
new-name		string	New Name
node		node-name	The textual name of a node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-reset

[top]

Reset node using selected BIOS firmware

Input Name	Range	Type	Description
firmware		bios-fw-type optional	BIOS Firmware to use on reboot
node		node-name	Node to be reset

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-shutdown

[top]

Shut down a node. Only an admin can initiate a node shutdown. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

Input Name	Range	Type	Description
ignore-quorum-warnings		boolean optional	Skip quorum check before halt.
ignore-strict-sync-warnings		boolean optional	Skip SnapMirror Synchronous Strict Sync check before reboot.
is-dump		boolean optional	If 'true', a core dump will be created. Default value is 'true'.
is-inhibit-takeover		boolean optional	If 'true', storage takeover by partner will be disallowed. Default value is 'true'.
is-skip-lif-migration-before-shutdown		boolean optional	If 'true', skip migrating LIFs away from this node prior to shutdown. Default value is 'true'.
node		string	Node to shutdown.
reason		string optional	Reason for shutdown.

Errno	Description
EOBJECTNOTFOUND	
EAPIPRIVILEGE	
EINTERNALERROR	
E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN	
E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM	
E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM	
E_FOLLOW_UPGRADE_PROCEDURE	
E_RESET_DEFAULT_IMAGE_UPGRADE	
E_RESET_DEFAULT_IMAGE_REVERT	

[top]

system-services-web-get

Get the configuration for the web server for Data ONTAP web services

Input Name	Range	Type	Description
desired-attributes		system-services-web-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		system-services-web-info	The attributes of the system.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-services-web-node-get

[top]

Get the status of the web server for Data ONTAP web services

Input Name	Range	Type	Description
desired-attributes		system-services-web-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		system-services-web-node-info	The attributes of the system.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-services-web-node-get-iter

[top]

Get the status of the web server for Data ONTAP web services

Input Name	Range	Type	Description
desired-attributes		system-services-web-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-services-web-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-services-web-node-info[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-set-new-ontap-version-downloaded

[top]

Called when a new version of Data ONTAP is downloaded making a non-disruptive upgrade possible.

system-set-node-stable-after-startup

[top]

This function is called by the GX management layer once a node has booted up to the point where it is operational. This "notification" allows the dblade to signal its partner that it is ready to receive additional aggregates to complete a send-home.

Errno	Description
EINTERNALERROR	

system-user-capability-get-iter

[top]

Returns the objects and their operations which are permitted to user who called this API.

Input Name	Range	Type	Description
desired-attributes		capability-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		capability-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role object. All security login role objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		capability-info[] optional	The list of attributes of security login role objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login role objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **api-list-info**

[top]

name of the API

[none]

Element definition: **bios-fw-type**

[top]

Choices for the two BIOS firmware images available for booting the system Possible values:

- "primary" - BIOS Firmware which the system boots from by default,
- "backup" - BIOS Firmware which the system boots from if primary fails,
- "current" - BIOS Firmware which the system is currently booted from

[none]

Element definition: **cache-mirror**

[top]

Cache Mirror typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
enabled		boolean optional	Is Cache mirror enabled? Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **capability-info**

[top]

Capability information about the object and their operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
object-name		string optional	Object name, for e.g., 'volume', 'storage.aggregate', 'vserver.nfs' etc.. Attributes: key, non-creatable, non-modifiable
operation-list		operation-info[] optional	Operation details. Contains the operation name, command path and API name.

Element definition: **external-cache-info**

[top]

External Cache Settings typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Enabled? Attributes: non-creatable, modifiable
is-hya-enabled		boolean optional	Is HyA Caching Enabled? Attributes: non-creatable, modifiable
is-rewarm-enabled		boolean optional	Is Rewarm On? Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
pcs-size	**[0..2^32-1]**	integer optional	PCS Size Attributes: non-creatable, modifiable

Element definition: **externaldevice**

[top]

usb0|usb1 Possible values:

- "usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **node-details-info**

[top]

Contains information about a specific node When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cpu-busytime	**[0..2^32-1]**	integer optional	The time (in hundredths of a second) that the CPU has been doing useful work since the last boot. Attributes: non-creatable, non-modifiable
cpu-firmware-release		string optional	Firmware release number. Defined by the CPU manufacturer. Attributes: non-creatable, non-modifiable
env-failed-fan-count	**[0..2^32-1]**	integer optional	Count of the number of chassis fans which are not operating within the recommended RPM range. Attributes: non-creatable, non-modifiable
env-failed-fan-message		string optional	Text message describing the current condition of chassis fans. This is useful only if env-failed-fan-count is not zero. Attributes: non-creatable, non-modifiable
env-failed-power-supply-count	**[0..2^32-1]**	integer optional	Number of failed power supply units. Attributes: non-creatable, non-modifiable
env-failed-power-supply-message		string optional	Text message describing the state of any power supplies which are currently degraded. This is useful only if env-failed-power-supply-count is not zero. Attributes: non-creatable, non-modifiable
env-over-temperature		boolean optional	An indication of whether the hardware is currently operating outside of its recommended temperature range. The hardware will shutdown if the temperature exceeds critical thresholds. Attributes: non-creatable, non-modifiable
is-all-flash-optimized		boolean optional	Is this node configured to only support SSD drives. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable
is-all-flash-select-optimized		boolean optional	Is this node configured to only support SSD drives for Select. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable
is-capacity-optimized		boolean optional	Is this node All Flash and Capacity Optimized. Attributes: non-creatable, non-modifiable
is-cloud-optimized		boolean optional	Is this node configured to support cloud services. Attributes: non-creatable, non-modifiable
is-diff-svcs		boolean optional	Is this node part of differentiated services storage infrastructure. Attributes: non-creatable, modifiable
is-epsilon-node		boolean optional	You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time.

			A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable
is-node-cluster-eligible		boolean optional	This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable
is-node-healthy		boolean optional	This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable
is-perf-optimized		boolean optional	Is this node All Flash and Performance Optimized. Attributes: non-creatable, non-modifiable
maximum-aggregate-size		size optional	The maximum supported aggregate size in bytes. Attributes: non-creatable, non-modifiable
maximum-number-of-volumes	**[0..2^32-1]**	integer optional	The maximum number of flexible volumes supported on this node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration. Attributes: non-creatable, non-modifiable
maximum-volume-size		size optional	The maximum supported volume size in bytes. Attributes: non-creatable, non-modifiable
node		node-name optional	The textual name of a node. Attributes: key, non-creatable, non-modifiable
node-asset-tag		string optional	The asset tag of the node. Attributes: non-creatable, modifiable
node-location		string optional	The physical location of the node. For example, Sunnyvale. Attributes: non-creatable, modifiable
node-model		string optional	The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable
node-nvram-id		integer optional	Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable
node-owner		string optional	The owner of the node. Attributes: non-creatable, modifiable
node-serial-number		string optional	The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable
node-storage-configuration		storage-configuration-state-enum optional	The storage configuration in the system. The possible values are: • 'mixed_path' • 'single_path' • 'multi_path' • 'quad_path' • 'single_path_ha' • 'multi_path_ha' • 'mixed_path_ha' • 'quad_path_ha' • 'unknown' Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "single_path" , • "multi_path" , • "mixed_path" , • "single_path_ha" , • "multi_path_ha" , • "mixed_path_ha" ,

			"quad_path" , • "quad_path_ha"
node-system-id		string optional	The system Id of the node. This is defined by the vendor. Generally, it is a string of numbers. Attributes: non-creatable, non-modifiable
node-uptime	**[0..2^32-1]**	integer optional	Total time, in seconds, that the node has been up. Attributes: non-creatable, non-modifiable
node-uuid		string optional	The universally unique identifier for the node. It is a 36-character string composed of 32 hexadecimal characters. For example, '542366ea-a024-11dd-9caa-7302e474c5ae'. Attributes: non-creatable, non-modifiable
node-vendor		string optional	The hardware vendor of the node. Attributes: non-creatable, non-modifiable
nvram-battery-status		nvram-battery-status-enum optional	Status of the NVRAM battery. The possible values that could be returned: • 'battery_ok' • 'battery_partially_discharged' • 'battery_fully_discharged ' • 'battery_not_present' • 'battery_near_end_of_life' • 'battery_at_end_of_life' • 'battery_unknown' • 'battery_over_charged' • 'battery_fully_charged' Attributes: non-creatable, non-modifiable Possible values: • "battery_ok" , • "battery_partially_discharged" , • "battery_fully_discharged" , • "battery_not_present" , • "battery_near_end_of_life" , • "battery_at_end_of_life" , • "battery_unknown" , • "battery_over_charged" , • "battery_fully_charged"
product-version		string optional	Product Version Attributes: non-creatable, non-modifiable
sas2-sas3-mixed-stack-support		sas2-sas3-mixed-stack-support optional	Support of mixed SAS2/SAS3 stacks. Attributes: non-creatable, non-modifiable Possible values: • "all" - SAS2/SAS3 mixing supported in all stacks, • "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks, • "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks, • "none" - SAS2/SAS3 mixing not supported
vm-system-disks		vm-system-disks optional	Contains virtual machine system disk backing info
vmhost-info		vmhost-info optional	Contains virtual machine host information

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-ontapi-detail-info**

[top]

The node names along with the ONTAPI version on the respective node.

Name	Range	Type	Description
major-version		integer	Current ONTAPI major version supported by this node. Range: [0..2^31-1].
minor-version		integer	Current ONTAPI minor version supported by this node. Range: [0..2^31-1].
node-name		string	Name of the node.
node-uuid		string	UUID, Universal Unique IDentifier, of the node.

Element definition: **node-version-detail-info**

[top]

The node names along with the ONTAP version on the respective node.

Name	Range	Type	Description
build-timestamp		integer optional	Time of build creation, in seconds since January 1, 1970, of the image running on the node. This field is available in Data ONTAP 8.1 or later.
node-name		string	Name of the node.
node-uuid		string	UUID, Universal Unique IDentifier, of the node.
version		string	Data ONTAP version running on the node.

Element definition: **replication-transfer-info**

[top]

Structure of each entry in the transfer accounting table

Name	Range	Type	Description
replication-available-transfers		integer	Number of transfers that could be started at this point in time, if we choose only this particular replication type. Range:[0..2^32-1]
replication-maximum-transfers		integer	Maximum number of transfers that can be started, if we choose only this particular replication type. Range:[1..2^32-1]
			Type of replication operation. Qtree-snapmirror/SnapVault have two core data transfer mechanisms which they can utilize for data transfer. One is the legacy engine and the other is the newer engine. By default Data

replication-type		string	ONTAP enables the new engine. The user can choose to flip between the new engine and legacy engine. options-get api with an input of replication.logical.transfer_limits can be used to detect the type of engine. "current" implies a new engine while "previous" implies the legacy engine. Open Systems SnapVault (OSSV) always uses the legacy engine for transfers. Legacy volume-snapmirror limits are used when data resides on a traditional volume. Possible values of a replication operation are • "legacy_qtree_snapmirror_source"; • "legacy_qtree_snapmirror_destination"; • "qtree_snapmirror_source"; • "qtree_snapmirror_destination"; • "legacy_volume_snapmirror_source"; • "legacy_volume_snapmirror_destination"; • "volume_snapmirror_source"; • "volume_snapmirror_destination"; • "legacy_snapvault_source"; • "legacy_snapvault_destination"; • "snapvault_source"; • "snapvault_destination"; • "sync_snapmirror_source"; • "sync_snapmirror_destination"; • "volume_copy_source"; • "volume_copy_destination";

Element definition: **system-api-entry-info**

[top]

list of api names and their elements

Name	Range	Type	Description
api-elements		system-api-element-info[]	list of api elements
name		string	api name

Element definition: **system-api-info**

[top]

api information

Name	Range	Type	Description
is-streaming		boolean optional	does api stream data?
license		string optional	license needed if any
name		string	name of api

Element definition: **system-api-type-entry-info**

[top]

list of type names and their elements

Name	Range	Type	Description
name		string	type name
type-elements		system-api-element-info[]	list of type elements

Element definition: **system-hypervisor-host-config-info**

[top]

Hypervisor Host Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-ipv4		ip-address optional	Address Attributes: required-for-create, modifiable
node		filer-id optional	Node Attributes: key, required-for-create, non-modifiable
port-ipv4	**[0..2^32-1]**	integer optional	UDP Port Attributes: optional-for-create, modifiable

Element definition: **system-hypervisor-snmpv3-config-info**

[top]

Hypervisor SNMP V3 Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
auth-password		string optional	Authentication Password Attributes: optional-for-create, modifiable
auth-protocol		string optional	Authentication Protocol Attributes: optional-for-create, modifiable
engine-id		string optional	Engine ID Attributes: optional-for-create, modifiable
node		filer-id optional	Node Attributes: key, required-for-create, non-modifiable

priv-protocol		string optional	Private Protocol Attributes: optional-for-create, modifiable
snmp-trapport	**[0..2^32-1]**	integer optional	SNMP Trap Port Attributes: optional-for-create, modifiable
username		string optional	Username Attributes: required-for-create, modifiable

Element definition: **system-hypervisor-uplink-mapping-info**

[top]

Hypervisor Uplink Mapping Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		filer-id optional	Node Attributes: key, required-for-create, non-modifiable
port		net-port optional	Port Attributes: key, required-for-create, non-modifiable
uplinks		string[] optional	Uplink Mapping Attributes: required-for-create, modifiable

Element definition: **system-image-attributes**

[top]

These attributes describe or modify the configuration of the nodes's boot images. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
image		string optional	Image Name Attributes: key, non-creatable, non-modifiable
install-time		datetime optional	Install Date Attributes: non-creatable, non-modifiable
is-current		boolean optional	Is Current Image Attributes: non-creatable, non-modifiable
is-default		boolean optional	Is Default Image Attributes: non-creatable, modifiable

kernel-path		string optional	Kernel Image Path Attributes: non-creatable, non-modifiable
node		string optional	Node Attributes: key, non-creatable, non-modifiable
rootfs-path		string optional	Root Filesystem Image Path Attributes: non-creatable, non-modifiable
version		string optional	Software Version Attributes: non-creatable, non-modifiable

Element definition: **system-image-external-package-attributes**

[top]

These attributes provide details about the software packages available on the external device connected to the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
device		externaldevice optional	Device Attributes: key, optional-for-create, non-modifiable Possible values: • "usb0" - external USB port 0, • "usb1" - external USB port 1
node		string optional	Node Attributes: key, non-creatable, non-modifiable
package		string optional	File Name Attributes: key, optional-for-create, non-modifiable

Element definition: **system-image-package-attributes**

[top]

These attributes provide details about the software packages available on the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		string optional	Node Attributes: key, non-creatable, non-modifiable

package		string optional	Package File Name Attributes: key, optional-for-create, non-modifiable

Element definition: **system-info**

[top]

Information about the system. Here system refers to a cluster node when running in cluster mode.

Name	Range	Type	Description
backplane-part-number		string optional	Part number of the backplane.
backplane-revision		string optional	Revision of the backplane part number.
backplane-serial-number		string optional	Backplane serial number.
board-speed		integer	Speed of the system board in mega Hertz.
board-type		string	Type of the system board. This is defined by the vendor
controller-address		string optional	The location of the controller in a multi-controller platform. Defined by the platform layer. Possible values: A,B,C,...
cpu-firmware-release		string optional	Firmware release number. Defined by the CPU manufacturer.
cpu-microcode-version		string	cpu's microcode version. Defined by the CPU manufacturer.
cpu-part-number		string optional	CPU's part number. Defined by the CPU manufacturer.
cpu-processor-id		string optional	Processor's ID. Defined by the CPU manufacturer.
cpu-processor-type		string optional	Processor's Type. Defined by the CPU manufacturer.
cpu-revision		string optional	CPU's part number revision. Defined by the CPU manufacturer.
cpu-serial-number		string optional	CPU's serial number. Defined by the CPU manufacturer.
maximum-aggregate-size	**[0..2^64-1]**	integer optional	The platform's maximum aggregate size in bytes.
maximum-flexible-volume-count	**[0..2^32-1]**	integer optional	The platform's maximum number of flexible volumes supported on this node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration.
maximum-flexible-volume-size	**[0..2^64-1]**	integer optional	The platform's maximum flexible volume size in bytes.
memory-size		integer	Memory size in megabytes. (1024*1024).
number-of-processors		integer	Number of processors in the appliance.
partner-system-id		string optional	Partner's system ID. Displayed in a cluster environment. A string of 10 characters.

partner-system-name		string optional	Partner's system name. Displayed in a cluster environment. Defined in the partner's setup.
partner-system-serial-number		string optional	Partner System serial number. Currently a string of numbers.
prod-type		string optional	Will be set to "V-Series", "gfiler", "gateway" or "FAS" depending upon the vendor providing the raw storage.
storage-configuration		string optional	Storage configuration status for the controller. The possible values are: • "mixed_path" • "single_path" • "multi_path" • "single_path_ha" • "multi_path_ha" • "mixed_path_ha" • "unknown"
supports-raid-array		boolean	Indicates whether the system supports raid arrays back-end connectivity or not. Possible values: "true" or "false".
system-id		string	System ID. This is defined by the vendor. Currently, it is a string of numbers
system-machine-type		string optional	Machine type of the system, like FAS3050
system-model		string	Model name of the system, like FAS3050
system-name		string	System name. This is the name defined during setup.
system-revision		string optional	System revision. There revision id of the system board. Currently, a character followed by a number, B0.
system-serial-number		string optional	System serial number.Currently a string of numbers.
vendor-data1		string optional	Vendor specific opaque data field 1.
vendor-data2		string optional	Vendor specific opaque data field 2.
vendor-data3		string optional	Vendor specific opaque data field 3.
vendor-id		string	Hardware vendor identifier.
vm-system-disks		vm-system-disks optional	Backing info for the Data ONTAP-v system disks
vmhost-info		vmhost-info optional	Info block for the hypervisor physical node on Data ONTAP-v

Element definition: **system-node-discovery**

[top]

Discovered nodes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-ip-addresses		ip-address[] optional	The cluster IP addresses of the discovered node. Attributes: non-creatable, non-modifiable
cluster-name		string optional	Cluster Name Attributes: non-creatable, non-modifiable
cluster-netmask		ip-address optional	The cluster LIF netmask. Attributes: non-creatable, non-modifiable
cluster-uuid		uuid optional	Cluster UUID Attributes: non-creatable, non-modifiable
is-node-in-cluster		boolean optional	If true, the node is currently a member of the cluster identified in the cluster-uuid and cluster-name. If false, this node is not currently a member of a cluster. Attributes: non-creatable, non-modifiable
node		string optional	Node Name Attributes: key, required-for-create, non-modifiable
node-model		string optional	The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable
node-nvram-id		nvramid optional	Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable
node-serial-number		string optional	The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable
partner-nvram-id		nvramid optional	The NVRAM-ID of the partner to the discovered node. Attributes: non-creatable, non-modifiable
version		string optional	Data ONTAP version running on the node. Attributes: non-creatable, non-modifiable

Element definition: **system-node-kernel-info**

[top]

Diagnostics and firmware details of a node

Name	Range	Type	Description
compilation-flags		string optional	Displays the verbose output which currently includes the compilation flags
firmware-info		system-path-version[] optional	Firmware path and firmware version
kernel-info		system-path-version[] optional	Kernel path and kernel version

node-name		string	Name of the node

Element definition: **system-node-power-info**

[top]

Node Power Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	Target node for the operation Attributes: key, non-creatable, non-modifiable
status		power-status optional	Current Power Status Attributes: non-creatable, non-modifiable Possible values: • "on" - Node is powered on, • "off" - Node is powered off

Element definition: **system-services-web-info**

[top]

Web server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
csrf-protection-enabled		boolean optional	CSRF Protection Enabled Attributes: non-creatable, modifiable
csrf-token-absolute-timeout	**[0..2^32-1]**	integer optional	CSRF Token Absolute Timeout (Seconds) Attributes: non-creatable, modifiable
csrf-token-concurrent-limit	**[0..9999]**	integer optional	Maximum Number of Concurrent CSRF Tokens Attributes: non-creatable, modifiable
csrf-token-idle-timeout	**[0..2^32-1]**	integer optional	CSRF Token Idle Timeout (Seconds) Attributes: non-creatable, modifiable
external		boolean optional	Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable
		boolean	

http-enabled		optional	HTTP Enabled Attributes: non-creatable, modifiable
http-port	**[0..65535]**	integer optional	HTTP Port Attributes: non-creatable, modifiable
https-port	**[0..65535]**	integer optional	HTTPS Port Attributes: non-creatable, modifiable
per-address-limit	**[24..999]**	integer optional	Per Address Limit Attributes: non-creatable, modifiable
ssl-fips-enabled		boolean optional	Global FIPS Enabled Attributes: non-creatable, non-modifiable
sslv3-enabled		boolean optional	SSLv3 Enabled Attributes: non-creatable, non-modifiable
status		web-proto-status optional	Protocol Status Attributes: non-creatable, non-modifiable Possible values: • "offline" - All web services are consistently configured and working correctly, • "partial" - One or more nodes' web services are unavailable due to an error condition, • "mixed" - The nodes in the cluster do not share the same web services configuration, • "online" - All of the nodes' web services are unavailable due to an error condition, • "unclustered" - The current node is not part of an active cluster
tlsv1-enabled		boolean optional	TLSv1 Enabled Attributes: non-creatable, non-modifiable
wait-queue-capacity	**[0..2^32-1]**	integer optional	Wait Queue Capacity Attributes: non-creatable, modifiable

Element definition: **system-services-web-node-info**

[top]

Node web server status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
csrf-token-count	**[0..2^32-1]**	integer optional	CSRF Token Count Attributes: non-creatable, non-modifiable
external		boolean optional	Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable
http-enabled		boolean optional	HTTP Enabled Attributes: non-creatable, modifiable
http-port	**[0..65535]**	integer optional	HTTP Port Attributes: non-creatable, modifiable
		integer	

https-port	**[0..65535]**	optional	HTTPS Port Attributes: non-creatable, modifiable
mean-connection-wait-time	**[0..2^32-1]**	integer optional	Mean Connection Wait Time (ms) Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
peak-concurrency	**[0..2^64-1]**	integer optional	Peak Concurrency Attributes: non-creatable, non-modifiable
peak-connection-wait-time	**[0..2^32-1]**	integer optional	Peak Connection Wait Time (ms) Attributes: non-creatable, non-modifiable
peak-per-address-concurrency	**[0..2^64-1]**	integer optional	Peak Per-Address Concurrency Attributes: non-creatable, non-modifiable
per-address-limit	**[24..999]**	integer optional	Per Address Limit Attributes: non-creatable, modifiable
status		web-proto-status optional	Protocol Status Attributes: non-creatable, non-modifiable Possible values: • "offline" - All web services are consistently configured and working correctly, • "partial" - One or more nodes' web services are unavailable due to an error condition, • "mixed" - The nodes in the cluster do not share the same web services configuration, • "online" - All of the nodes' web services are unavailable due to an error condition, • "unclustered" - The current node is not part of an active cluster
status-code	**[0..2^32-1]**	integer optional	Status Return Code Attributes: non-creatable, non-modifiable
total-bytes	**[0..2^32-1]**	integer optional	Total Bytes Served Attributes: non-creatable, non-modifiable
total-connection-wait-time	**[0..2^64-1]**	integer optional	Total Connection Wait Time (ms) Attributes: non-creatable, non-modifiable
total-connections	**[0..2^64-1]**	integer optional	Total Connections Attributes: non-creatable, non-modifiable
total-delayed-connections	**[0..2^64-1]**	integer optional	Total Delayed Connections Attributes: non-creatable, non-modifiable
total-hits	**[0..2^32-1]**	integer optional	Total HTTP Requests Attributes: non-creatable, non-modifiable
total-http-ops	**[0..2^32-1]**	integer optional	Total HTTP ops Attributes: non-creatable, non-modifiable
total-https-ops	**[0..2^32-1]**	integer optional	Total HTTPS ops Attributes: non-creatable, non-modifiable
total-pend-auth	**[0..2^32-1]**	integer optional	Total Pending Auth Attributes: non-creatable, non-modifiable
total-rc-1xx	**[0..2^32-1]**	integer optional	Total RCs 100-199 Attributes: non-creatable, non-modifiable
total-rc-2xx	**[0..2^32-1]**	integer optional	Total RCs 200-299 Attributes: non-creatable, non-modifiable
total-rc-3xx	**[0..2^32-1]**	integer optional	Total RCs 300-399 Attributes: non-creatable, non-modifiable
total-rc-4xx	**[0..2^32-1]**	integer optional	Total RCs 400-499 Attributes: non-creatable, non-modifiable

total-rc-5xx	**[0..2^32-1]**	integer optional	Total RCs 500-599 Attributes: non-creatable, non-modifiable
total-workers	**[0..2^32-1]**	integer optional	Total Workers Attributes: non-creatable, non-modifiable
wait-queue-capacity	**[0..2^32-1]**	integer optional	Wait Queue Capacity Attributes: non-creatable, modifiable
work-state-close	**[0..2^32-1]**	integer optional	Workers Closing Attributes: non-creatable, non-modifiable
work-state-keep	**[0..2^32-1]**	integer optional	Workers in KeepAlive Attributes: non-creatable, non-modifiable
work-state-log	**[0..2^32-1]**	integer optional	Workers Logging Attributes: non-creatable, non-modifiable
work-state-read	**[0..2^32-1]**	integer optional	Workers Reading Attributes: non-creatable, non-modifiable
work-state-ready	**[0..2^32-1]**	integer optional	Workers Ready Attributes: non-creatable, non-modifiable
work-state-write	**[0..2^32-1]**	integer optional	Workers Writing Attributes: non-creatable, non-modifiable
workers-avail	**[0..2^32-1]**	integer optional	Workers Available Attributes: non-creatable, non-modifiable
workers-busy	**[0..2^32-1]**	integer optional	Workers Busy Attributes: non-creatable, non-modifiable

Element definition: **system-version-tuple**

[top]

Contains the Data ONTAP version tuple corresponding to the lowest version across the cluster.

Name	Range	Type	Description
generation		integer	First integer of the Data ONTAP version tuple corresponding the lowest version across the cluster.
major		integer	Second integer of the Data ONTAP version tuple corresponding the lowest version across the cluster.
minor		integer	Third integer of the Data ONTAP version tuple corresponding the lowest version across the cluster.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **externaldevice**

[top]

usb0|usb1 Possible values:

"usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **nvram-battery-status-enum**

[top]

ok|partially discharged|fully discharged|not present|near eol|eol|unknown|over charged|fully charged
Possible values:

- "battery_ok" ,
- "battery_partially_discharged" ,
- "battery_fully_discharged" ,
- "battery_not_present" ,
- "battery_near_end_of_life" ,
- "battery_at_end_of_life" ,
- "battery_unknown" ,

- "battery_over_charged" ,
- "battery_fully_charged"

[none]

Element definition: **nvramid**

[top]

NVRAM Id

[none]

Element definition: **operation-info**

[top]

Operation details. Contains the operation name, command path and API name.

Name	Range	Type	Description
api-name		string optional	API corresponding to operation, for e.g., if object name is 'volume' and operation name is 'create' then operation's api name would be 'volume-create'. If multiple APIs are associated with same operation then API names will be ',' separated. Attributes: non-creatable, non-modifiable
command-path		string optional	Operation Command Directory Path Attributes: non-creatable, non-modifiable
name		string optional	Name of the operation, for e.g., 'create', 'modify' etc.. Attributes: key, non-creatable, non-modifiable

Element definition: **power-status**

[top]

Possible values for power status of any node Possible values:

- "on" - Node is powered on,
- "off" - Node is powered off

[none]

Element definition: **sas2-sas3-mixed-stack-support**

[top]

all|direct-attached|bridge-attached|none Possible values:

- "all" - SAS2/SAS3 mixing supported in all stacks,
- "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks,
- "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks,
- "none" - SAS2/SAS3 mixing not supported

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **storage-configuration-state-enum** [top]

Unknown|Single-Path|Multi-Path|Mixed-Path|Single-Path HA|Multi-Path HA|Mixed-Path HA|Quad-Path|Quad-Path HA Possible values:

- "unknown" ,
- "single_path" ,
- "multi_path" ,
- "mixed_path" ,
- "single_path_ha" ,
- "multi_path_ha" ,
- "mixed_path_ha" ,
- "quad_path" ,
- "quad_path_ha"

[none]

Element definition: **system-api-element-info** [top]

api element description. This can be a simple type or a reference to another typedef (as defined in the 'type' element. Arrays are signified by having '[]' appended to the type name.

Name	Range	Type	Description
encrypted		string optional	encryption type. If missing the parameter isn't encrypted
is-nonempty		boolean optional	must element be non-empty. If false or missing element value may be empty.
is-optional		boolean optional	is element optional. If false or missing element is required.
is-output		boolean optional	is element an output element. If false or missing then is an input element
is-validated		boolean optional	argument will have strong validation done by the server (e.g. integer range). If false or empty, no validation will be done.
name		string	name of element
type		string	type of variable possible values: "string", "integer", "boolean", type-name

Element definition: **system-path-version**

[top]

Image-path and image version for diagnostics and firmware files of the node

Name	Range	Type	Description
path-info		string optional	File path . Displays the file path in form /cfcard/x86_64/..
version-info		string optional	File version . Kernel and file versions Example: Firmware #.#.# or OS version

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vm-system-disks**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

Name	Range	Type	Description
vm-bootdisk-area-name		string optional	The name of the hypervisor's storage area for the VMs bootdisk. For ESX this is the name of a datastore.
vm-bootdisk-file-name		string optional	The hypervisor's filename for the VMs bootdisk.
vm-coredisk-area-name		string optional	The name of the hypervisor's storage area for the VMs coredump and swap disk. For ESX this is the name of a datastore.
vm-coredisk-file-name		string optional	The hypervisor's filename for the VMs coredump disk.
vm-logdisk-area-name		string optional	The name of the hypervisor's storage area for the VMs log disk. For ESX this is the name of a datastore.
vm-logdisk-file-name		string optional	The hypervisor's filename for the VMs log disk.

Element definition: **vmhost-info**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

Name	Range	Type	Description
vm-custom-max-capacity		integer optional	The maximum system capacity (in TB) that can be configured on the VM. Example is "20".
vm-uuid		string optional	The hypervisor-supplied UUID, Universal Unique Identifier, for the virtual machine. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0".
vmhost-bios-release-date		string optional	Release date for the currently running hypervisor BIOS. Example is "2000-01-01T00:00:00Z".
vmhost-bios-version		string optional	Current BIOS version of the hypervisor physical chassis. Example is "S5500.2.1.3.0.081620131102".
vmhost-boot-time		string optional	Time when the hypervisor was last booted. Example is "2014-01-01T00:00:00.420462-04:00".
vmhost-cpu-clock-rate	**[0..2^32-1]**	integer optional	Speed of the hypervisor CPU cores (MHz).
vmhost-cpu-core-count	**[0..2^32-1]**	integer optional	Number of physical CPU cores on the hypervisor. Physical CPU cores are the processors contained by a CPU package.
vmhost-cpu-socket-count	**[0..2^32-1]**	integer optional	Number of physical CPU packages on the hypervisor. Physical CPU packages are chips that contain one or more processors. Processors contained by a package are also known as CPU cores. For example, one dual-core package is comprised of one chip that contains two CPU cores.
vmhost-cpu-thread-count	**[0..2^32-1]**	integer optional	Number of physical CPU threads on the hypervisor.
vmhost-error		string optional	Error (if any) while retrieving hypervisor details. Example is "[13115] vSphere server is missing".
vmhost-gateway		string optional	The default gateway (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmhost-hardware-vendor		string optional	Name of the hypervisor hardware manufacturer. Example is "IBM".
vmhost-hypervisor		string optional	Complete product name, including the version information for the hypervisor.
vmhost-ip-address		string optional	Primary IP address (IPv4 or IPv6) assigned to the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmhost-memory	**[0..2^64-1]**	integer optional	Physical memory size of the hypervisor (bytes).
vmhost-model		string optional	The hardware model of the hypervisor machine. Example is "IBM eServer BladeCenter HS21".
vmhost-name		string optional	Host name assigned to the hypervisor. Example is "myesx.example.com".
vmhost-netmask		string optional	Subnet mask address (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmhost-processor-id		string optional	Processor ID of the hypervisor. Example is "0000:0000:0000:0001:0000:0110:0111:0110".
vmhost-		string	

processor-type		optional	CPU Model of the hypervisor.
vmhost-software-vendor		string optional	Name of the virtual machine software manufacturer.
vmhost-uuid		string optional	UUID, Universal Unique Identifier, of the hypervisor. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0".

Element definition: **web-proto-status**

[top]

offline|partial|mixed|online|unclustered Possible values:

- "offline" - All web services are consistently configured and working correctly,
- "partial" - One or more nodes' web services are unavailable due to an error condition,
- "mixed" - The nodes in the cluster do not share the same web services configuration,
- "online" - All of the nodes' web services are unavailable due to an error condition,
- "unclustered" - The current node is not part of an active cluster

[none]

APIs in Category: **tape-mc-info**

tape-mc-get
tape-mc-get-iter
tape-mc-info-alias-clear
tape-mc-info-alias-set
tape-mc-info-offline
tape-mc-info-online
tape-mc-info-position
tape-mc-info-reset
tape-mc-info-test-release
tape-mc-info-test-reserve
tape-mc-info-trace

This set of ZAPIs allows management of cluster-wide tape drive and media changer devices.

tape-mc-get

[top]

Return a tape drive / media changer view

Input Name	Range	Type	Description
desired-attributes		tape-mc-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
device-id		string	Device ID
node-name		node-name	Node

Output Name	Range	Type	Description
attributes		tape-mc-info	The attributes of the tape-mc-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-get-iter

[top]

Iterate over the list of Tape/MC objects

Input Name	Range	Type	Description
desired-attributes		tape-mc-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 300
query		tape-mc-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the tape-mc-info object. All tape-mc-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		tape-mc-info[] optional	The list of attributes of tape-mc-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more tape-mc-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

tape-mc-info-alias-clear

[top]

Clear tape drive / media changer alias. Specify name or clear-scope but not both.

Input Name	Range	Type	Description
clear-scope		tape-mc-device-scope-enum optional	Scope of Alias Clear Operation
name		string optional	Alias Name That Is to Be Cleared
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-alias-set

[top]

Set a tape/drive media changer alias

Input Name	Range	Type	Description
mapping		string	Mapping for Alias Name
name		string	Alias Name for Tape Drive or Media Changer
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-offline

[top]

Take a tape drive offline. Specify name or device-id but not both.

Input Name	Range	Type	Description
device-id		string optional	Tape Drive Device ID
device-name		string optional	Tape Drive Device Name
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-online

[top]

Bring a tape drive online

Input Name	Range	Type	Description
device-id		string optional	Tape Drive Device ID
device-name		string optional	Tape Drive Device Name
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-position

[top]

Position tape cartridge

Input Name	Range	Type	Description
count		integer optional	Count for Positioning
device-name		string	Tape Drive Device Name
node-name		node-name	Node

operation		tape-mc-tape-oper-enum	Tape Position Operation

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-reset

[top]

Reset the tape drive

Input Name	Range	Type	Description
device-id		string	Tape Drive Device ID
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-test-release

[top]

Release a tape drive test reservation

Input Name	Range	Type	Description
device-id		string	Tape Drive Device ID
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-test-reserve

[top]

Reserve a tape drive for testing

Input Name	Range	Type	Description
device-id		string	Tape Drive Device ID
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-trace

[top]

Enable/disable tape trace operations

Input Name	Range	Type	Description
is-trace-enabled		boolean	Tape Trace Enabled or Disabled
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **tape-mc-device-scope-enum**

[top]

tape|media-changer|all Possible values:

- "none" - Scope none,
- "tape" - Scope of the operation is tape drives only,
- "media_changer" - Scope of the operation is for media changers only,
- "all" - Scope of the operation is for both tape drives and media changers

[none]

Element definition: **tape-mc-info**

[top]

Information about Tape and Media Changer Devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alias-		string	Alias Mapping Attributes: non-creatable, non-

mapping		optional	modifiable
alias-name		string optional	Alias Name Attributes: non-creatable, non-modifiable
block-number	**[-2^31..2^31-1]**	integer optional	Block Number Attributes: non-creatable, non-modifiable
density-formats		device-density-format[] optional	Device density formats
description		string optional	Description Attributes: non-creatable, non-modifiable
device-id		string optional	Device ID Attributes: key, non-creatable, non-modifiable
device-if-type		tape-mc-device-if-type-enum optional	Device Interface Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Tape drive/media changer interface type unknown, • "fibre_channel" - Tape drive/media changer fibre channel interface type, • "sas" - Tape drive/Media changer SAS interface type, • "pscsi" - Tape drive/media changer pSCSI interface type
device-names		device-name-density[] optional	Device names for tape positioning
device-state		tape-mc-device-state-enum optional	Operational State of Device Attributes: non-creatable, non-modifiable Possible values: • "unknown" - State of the tape device is unknown, • "available" - Tape device available for use, • "ready_write_enabled" - Tape drive is ready and write-enabled, • "ready_write_protected" - Tape drive is ready and write-protected, • "offline" - Tape device is offline, • "in_use" - Tape device is currently in use, • "error" - Tape device is reporting errors, • "reserved_by_another_host" - Tape device is reserved by another node or host, • "normal" - Tape device is in a normal functional state, • "rewinding" - Tape device is rewinding a tape, • "erasing" - Tape device is erasing a tape
device-type		string optional	Device Type Attributes: non-creatable, non-modifiable
error		string optional	Tape Error Attributes: non-creatable, non-modifiable
file-number	**[-2^31..2^31-1]**	integer optional	File Number Attributes: non-creatable, non-modifiable
functional-status		tape-mc-func-status-enum optional	Functional Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Tape device status unknown, • "normal" - Tape device shows normal status,

			"error" - Tape device is reporting errors
initiator		string optional	Initiator Port Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node Attributes: key, non-creatable, non-modifiable
residual-count	**[-2^31..2^31-1]**	integer optional	Residual Count of Last I/O Operation Attributes: non-creatable, non-modifiable
resv-type		tape-mc-resv-type-enum optional	Reservation Type for device Attributes: non-creatable, non-modifiable Possible values: • "off" , • "persistent" , • "scsi"
serial-number		string optional	Serial Number Attributes: non-creatable, non-modifiable
wwnn		string optional	World Wide Node Name Attributes: non-creatable, non-modifiable
wwpn		string optional	World Wide Port Name Attributes: non-creatable, non-modifiable

Element definition: **tape-mc-tape-oper-enum**

[top]

weof|fsf|bsf|fsr|bsr|rewind|erase|eom Possible values:

- "weof" - Write end-of-file,
- "fsf" - Forward space files,
- "bsf" - Backward space files,
- "fsr" - Forward space records,
- "bsr" - Backward space records,
- "rewind" - Rewind tape cartridge,
- "erase" - Erase tape media,
- "eom" - End of tape media

[none]

Element definition: **device-density-format**

[top]

Device density formats

Name	Range	Type	Description
device-format		string optional	Tape Cartridge Format Attributes: non-creatable, non-modifiable

Element definition: **device-name-density**

[top]

Device names for tape positioning

Name	Range	Type	Description
device-name-no-rewind		string optional	Device Name for No Rewind Attributes: non-creatable, non-modifiable
device-name-rewind		string optional	Device Name for Rewind Attributes: non-creatable, non-modifiable
device-name-unload-reload		string optional	Device Name for Unload Reload Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **tape-mc-device-if-type-enum**

[top]

unknown|fibre-channel|SAS|pSCSI Possible values:

- "unknown" - Tape drive/media changer interface type unknown,
- "fibre_channel" - Tape drive/media changer fibre channel interface type,
- "sas" - Tape drive/Media changer SAS interface type,
- "pscsi" - Tape drive/media changer pSCSI interface type

[none]

Element definition: **tape-mc-device-state-enum**

[top]

unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal Possible values:

- "unknown" - State of the tape device is unknown,
- "available" - Tape device available for use,
- "ready_write_enabled" - Tape drive is ready and write-enabled,
- "ready_write_protected" - Tape drive is ready and write-protected,
- "offline" - Tape device is offline,
- "in_use" - Tape device is currently in use,
- "error" - Tape device is reporting errors,
- "reserved_by_another_host" - Tape device is reserved by another node or host,
- "normal" - Tape device is in a normal functional state,
- "rewinding" - Tape device is rewinding a tape,
- "erasing" - Tape device is erasing a tape

[none]

Element definition: **tape-mc-func-status-enum**

[top]

unknown|normal|error Possible values:

- "unknown" - Tape device status unknown,
- "normal" - Tape device shows normal status,
- "error" - Tape device is reporting errors

[none]

Element definition: **tape-mc-resv-type-enum**

[top]

off|persistent|scsi Possible values:

- "off" ,
- "persistent" ,
- "scsi"

[none]

APIs in Category: **template-management**

template-management-template-copy
template-management-template-delete
template-management-template-download
template-management-template-get
template-management-template-get-iter
template-management-template-parameter-get
template-management-template-parameter-get-iter
template-management-template-parameter-modify
template-management-template-parameter-modify-iter
template-management-template-provision
template-management-template-provision-error-get
template-management-template-rename
template-management-template-upload

This set of ZAPIs allows to manage Templates.

template-management-template-copy

[top]

Copy a Template.

Input Name	Range	Type	Description
destination-name		string	Destination template.
name		string	Name of the template

Errno	Description
EINTERNALERROR	
ETEMPLATENOTFOUND	
E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED	
E_TEMPLATE_FILE_NOT_EXISTS	
E_TEMPLATE_INTERNAL_FAILURE	

template-management-template-delete

[top]

Delete a template.

Input Name	Range	Type	Description
name		string	Name of the template.

Errno	Description
EINTERNALERROR	
ETEMPLATENOTFOUND	
E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED	

template-management-template-download

[top]

Download a template.

Input Name	Range	Type	Description
name		string optional	Name of the template.
uri		string	URI of the template.

Errno	Description
EINTERNALERROR	
E_TEMPLATE_DOWNLOAD_FAILED	
E_TEMPLATE_VERSION_KEY_NOT_FOUND	
E_TEMPLATE_NAME_NOT_FOUND	
E_TEMPLATE_INVALID_TEMPLATE	
E_TEMPLATE_VERSION_NOT_SUPPORTED	
E_TEMPLATE_SYNTAX_ERROR	
E_TEMPLATE_INTERNAL_ERROR	
E_TEMPLATE_TEMPLATE_TYPE_NOT_FOUND	
E_TEMPLATE_INTERNAL_FAILURE	
E_TEMPLATE_INVALID_TYPE	
E_TEMPLATE_USE_NAME_OPTION	
E_TEMPLATE_SAME_NAME_EXISTS	

template-management-template-get

[top]

Get the attributes of the template.

Input Name	Range	Type	Description
desired-		template-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		optional	present, only the desired attributes for which information is available will be returned.
name		template-name	Name of the template

Output Name	Range	Type	Description
attributes		template-info	The attributes of the template-management.

Errno	Description
EINTERNALERROR	

template-management-template-get-iter

[top]

Display information about templates.

Input Name	Range	Type	Description
desired-attributes		template-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		template-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		template-info[] optional	The list of attributes of template-management objects.
next-tag		string optional	Tag for the next call. Not present when there are no more template-management objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

template-management-template-parameter-get

[top]

Get the parameter of a Template.

Input Name	Range	Type	Description
desired-attributes		template-parameter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	Name of the parameter
template		template-name	Name of the template

Output Name	Range	Type	Description
attributes		template-parameter-info	The attributes of the template-management.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

template-management-template-parameter-get-iter

[top]

Get the parameters of the Template.

Input Name	Range	Type	Description
desired-attributes		template-parameter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		template-parameter-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		template-parameter-info[] optional	The list of attributes of template-management objects.
next-tag		string optional	Tag for the next call. Not present when there are no more template-management objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

template-management-template-parameter-modify

[top]

Modify attributes of a parameter.

Input Name	Range	Type	Description
default-value		string optional	Default value of the parameter
name		string	Name of the parameter
template		template-name	Name of the template

Errno	Description
E_TEMPLATE_PERMISSION_DENIED	
E_TEMPLATE_INTERNAL_FAILURE	
E_TEMPLATE_CONST_MAX_LEN	
E_TEMPLATE_CONST_MAX_MIN_LEN	
E_TEMPLATE_CONST_ALLOW_VALS	
E_TEMPLATE_TYPE_CHECK_FAILED	

template-management-template-parameter-modify-iter

[top]

Modify attributes of a parameter.

Input Name	Range	Type	Description
attributes		template-parameter-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple template-management objects match a given query. If set to true, the API will continue modifying the next matching template-management even when modification of a previous template-management fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching template-management even when the modification of a previous matching template-management fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		template-parameter-info	If modifying a specific template-management, this input element must specify all keys. If modifying template-management objects based on query, this input element must specify a query.

return-failure-list		boolean optional	If set to true, the API will return the list of template-management objects (just keys) that were not modified due to some error. If set to false, the list of template-management objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of template-management objects (just keys) that were successfully updated. If set to false, the list of template-management objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		template-management-template-parameter-modify-iter-info[]	Information about template-management objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching template-management objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of template-management objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of template-management objects that matched the query and were successfully updated.
success-list		template-management-template-parameter-modify-iter-info[]	The template-management objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

template-management-template-provision

[top]

Configures a Vserver according to the specification provided in the template. This is an async operation. On a successful queuing of the import operation, a job ID of the job that would configure the Vserver would be returned.

Input Name	Range	Type	Description
custom-inputs		custom-input-info[] optional	An array, one entry per each custom input.
template		string	The name of the template.

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	The job id of the job that was queued to configure the Vserver.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

template-management-template-provision-error-get

[top]

Get the Template Provision Error Details.

Input Name	Range	Type	Description
desired-attributes		template-provision-error-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
jobid	**[0..2^64-1]**	integer	Job ID

Output Name	Range	Type	Description
attributes		template-provision-error-info	The attributes of the template-management.

Errno	Description
EINTERNALERROR	

template-management-template-rename

[top]

Rename a template.

Input Name	Range	Type	Description
name		string	Name of the template
new-name		string	New name of the template.

Errno	Description
EINTERNALERROR	
ETEMPLATENOTFOUND	
E_TEMPLATE_FILE_NOT_EXISTS	
E_TEMPLATE_NOT_SUPP_ON_RO_AND_SERVICE	
E_TEMPLATE_SUPP_ONLY_ON_TEMPLATES	
E_TEMPLATE_INTERNAL_FAILURE	
E_TEMPLATE_SAME_NAME_EXISTS	

template-management-template-upload

[top]

Upload a template.

Input Name	Range	Type	Description
name		string	Name of the template.
uri		string	URI to upload the template.

Errno	Description
EINVALIDINPUTERROR	
E_TEMPLATE_UPLOAD_FAILED	
E_TEMPLATE_FILE_NOT_EXISTS	
E_TEMPLATE_PROVIDE_DESTINATION_FILE_NAME	
E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED	

Element definition: **custom-input-info**

[top]

Name	Range	Type	Description
key		string	Name of the attribute.
value		string	Value of the attribute.

Element definition: **template-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description Attributes: non-creatable, non-modifiable
missing-prerequisites		string optional	Missing Prerequesites Attributes: non-creatable, non-modifiable
name		template-name optional	Name of the template Attributes: key, non-creatable, non-modifiable
parent-template		string optional	Parent template name Attributes: non-creatable, non-modifiable
permission		template-permission optional	Permission Attributes: non-creatable, non-modifiable Possible values: • "readonly" - Read Only, • "readwrite" - Read Write
uuid		uuid	UUID of the template Attributes: non-creatable, non-

		optional	modifiable
version		string optional	Version Attributes: non-creatable, non-modifiable

Element definition: **template-management-template-parameter-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against template-management object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
template-management-key		template-parameter-info	The keys for the template-management object to which the modify operation applies.

Element definition: **template-name** [top]

The name of the Template.

[none]

Element definition: **template-parameter-info** [top]

Template Parameter Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allowed-vals		string optional	Allowed values Attributes: non-creatable, non-modifiable
default-value		string optional	Default value of the parameter Attributes: non-creatable, modifiable
max-length	**[0..2^32-1]**	integer optional	Maximum length Attributes: non-creatable, non-modifiable
name		string optional	Name of the parameter Attributes: key, non-creatable, non-modifiable

permission		string optional	Template permission Attributes: non-creatable, non-modifiable
range-max	**[0..2^32-1]**	integer optional	Maximum range Attributes: non-creatable, non-modifiable
range-min	**[0..2^32-1]**	integer optional	Minumum range Attributes: non-creatable, non-modifiable
recommended-value		string optional	Recommended value of the parameter Attributes: non-creatable, non-modifiable
template		template-name optional	Name of the template Attributes: key, non-creatable, non-modifiable
type		string optional	Type of the parameter Attributes: non-creatable, non-modifiable

Element definition: **template-provision-error-info**

[top]

Template Provision Errors When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failure-errornum	**[0..2^32-1]**	integer optional	Failure Error Number Attributes: non-creatable, non-modifiable
failure-reason		string optional	Failure Reason Attributes: non-creatable, non-modifiable
input-params		string[] optional	Input Parameters Attributes: non-creatable, non-modifiable
jobid	**[0..2^64-1]**	integer optional	Job ID Attributes: key, non-creatable, non-modifiable

Element definition: **template-name**

[top]

The name of the Template.

[none]

Element definition: **template-permission**

[top]

template_permission Possible values:

- "readonly" - Read Only,
- "readwrite" - Read Write

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **ucm**

ucm-adapter-get
ucm-adapter-get-iter
ucm-adapter-modify

UCM provides a management framework to manage configurations of all Fibre Channel (FC) adapters and Converged Network Adapters (CNA) under Data ONTAP. Some adapters with dual operational modes can be configured into either FC or CNA modes. When configured as a CNA, the adapter can concurrently support Ethernet and Fibre Channel over Ethernet (FCoE). When configured as an FC adapter, the adapter only supports native FC. Not all adapters support both modes. Under FC or FCoE, Data ONTAP supports two different functions or FC-4 types: initiator, or target. The initiator type can be used for FC storage loops, FC TapeSAN, and OPR functionality. The target type can be used for SAN attach (FCP/Blocks access) functionality. To modify the configuration of an adapter, use the ucm-adapter-modify API.

ucm-adapter-get

[top]

Get the attributes of the UC Adapter.

Input Name	Range	Type	Description
adapter-name		string	Adapter
desired-attributes		uc-adapter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	Node

Output Name	Range	Type	Description
attributes		uc-adapter-info	The attributes of the UC Adapter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ucm-adapter-get-iter

[top]

Iterate over a list of UC Adapter objects.

Input Name	Range	Type	Description
		uc-	Specify the attributes that should be returned. If not present, all

desired-attributes		adapter-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		uc-adapter-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the UC Adapter object. All UC Adapter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		uc-adapter-info[] optional	The list of attributes of UC Adapter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more UC Adapter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ucm-adapter-modify

[top]

Modify the attributes of UC Adapter object.

Input Name	Range	Type	Description
adapter-name		string	Adapter
fc4-type		ucm-type optional	Configured Type
mode		ucm-mode optional	Configured Mode
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **uc-adapter-info**

[top]

Information for one UC Adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Adapter Attributes: key, non-creatable, non-modifiable
fc4-type		ucm-type optional	Current Type Attributes: non-creatable, non-modifiable Possible values: • "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
mode		ucm-mode optional	Current Mode Attributes: non-creatable, non-modifiable Possible values: • "fc" - Fibre Channel, • "cna" - Converged Network Adapter
node-name		node-name optional	Node Attributes: key, non-creatable, non-modifiable
pending-fc4-type		ucm-type optional	Pending Type Attributes: non-creatable, non-modifiable Possible values: • "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
pending-mode		ucm-mode optional	Pending Mode Attributes: non-creatable, non-modifiable Possible values: • "fc" - Fibre Channel, • "cna" - Converged Network Adapter
status		string optional	Administrative Status Attributes: non-creatable, non-modifiable
supported-fc4-type-for-cna-mode		ucm-type[] optional	Supported CNA Types Attributes: non-creatable, non-modifiable Possible values: • "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
			Supported FC Types Attributes: non-creatable, non-modifiable Possible values:

supported-fc4-type-for-fc-mode		ucm-type[] optional	• "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
supported-mode		ucm-mode[] optional	Supported Modes Attributes: non-creatable, non-modifiable Possible values: • "fc" - Fibre Channel, • "cna" - Converged Network Adapter

Element definition: **ucm-mode**

[top]

The operational mode of the adapter. Possible values:

- "fc" - Fibre Channel,
- "cna" - Converged Network Adapter

[none]

Element definition: **ucm-type**

[top]

The FC-4 type of the adapter. Possible values:

- "initiator" - Initiator mode,
- "target" - Target mode,
- "fcvi" - Fcvi mode

[none]

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **useradmin**

useradmin-domainuser-add
useradmin-domainuser-delete
useradmin-domainuser-list
useradmin-group-add
useradmin-group-delete
useradmin-group-list
useradmin-group-modify
useradmin-role-add
useradmin-role-delete
useradmin-role-list
useradmin-role-modify
useradmin-user-add
useradmin-user-delete
useradmin-user-list
useradmin-user-modify
useradmin-user-modify-password

useradmin-domainuser-add

[top]

Adds a nonlocal user into a group or groups. The user can be added as a SID or as domain\username. This API is only used in a windows environment.

Input Name	Range	Type	Description
user-identifier		string	Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid.
useradmin-groups		useradmin-group-info[]	List of local groups to contain the domain user.

Errno	Description
EINTERNALERROR	
EONTAPI_EPERM	
ECIFSNOTCONFIGURED	

Vfiler-enabled
Yes

useradmin-domainuser-delete

[top]

Removes a nonlocal user from a group or groups. The user can be removed as a SID or as domain\username. This API is only used in a windows environment.

Input Name	Range	Type	Description
user-identifier		string	Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid.
useradmin-groups		useradmin-group-info[]	Remove the SID from this list of local groups.

Errno	Description
EINTERNALERROR	
EONTAPI_EPERM	
ECIFSNOTCONFIGURED	

Vfiler-enabled
Yes

useradmin-domainuser-list

[top]

List all of the SIDs in a given group. This API is only used in a windows environment.

Input Name	Range	Type	Description
group-name		string	List only the SIDs in this group.

Output Name	Range	Type	Description
user-identifiers		sid[]	List of SID's inside of the group.

Errno	Description
EINTERNALERROR	
EONTAPI_EPERM	
ECIFSNOTCONFIGURED	

Vfiler-enabled
Yes

useradmin-group-add

[top]

Adds a group given the information provided.

Input Name	Range	Type	Description
useradmin-group		useradmin-group-info	New group information. A group must have a name and at least one role. A comment is also allowed. All other fields are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-group-delete

[top]

Deletes a group.

Input Name	Range	Type	Description
group-name		string	The name of the group to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-group-list

[top]

Lists full information for all groups on the system.

Input Name	Range	Type	Description
group-name		string optional	List only the information associated with this group.
verbose		boolean optional	Default is false. If set to true, then the allowed capabilities are placed into the group-info structure. Depending on number of groups and roles, this operation may take a long time.

Output Name	Range	Type	Description
useradmin-groups		useradmin-group-info[]	List of groups and information associated with them.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-group-modify

[top]

Modifies a group given the information provided.

Input Name	Range	Type	Description

new-group-name		string optional	New group name for this group. This is used to rename the group specified in useradmin-group. If this value is invalid, useradmin-group-modify fails without changing anything. The value is optional, and if not provided, the group name will be unchanged.
useradmin-group		useradmin-group-info	A group must have a name. If one or more roless and/or a comment is provided, the group is modified accordingly. All other fields are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-add

[top]

Adds a role given the information provided.

Input Name	Range	Type	Description
useradmin-role		useradmin-role-info	New role information. A role must have a name and at least one allowed capability. A role-info comment is also allowed. All other fields are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-delete

[top]

Deletes a role.

Input Name	Range	Type	Description
role-name		string	The name of the role to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-list

[top]

Lists full information for all roles on the system.

Input Name	Range	Type	Description
role-name		string optional	List only the information associated with this role.

Output Name	Range	Type	Description
useradmin-roles		useradmin-role-info[]	List of roles and information associated with them.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-modify

[top]

Modifies a role given the information provided.

Input Name	Range	Type	Description
useradmin-role		useradmin-role-info	A role must have a name. If one or more capabilities and/or a comment is provided, the role is modified accordingly.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-add

[top]

Adds a user given the information provided.

Input Name	Range	Type	Description
password		string	Password for the user. Please see documentation for constraints on the password.
useradmin-user		useradmin-user-info	New user information. A user must have a name and at least one group. A comment and full-name are also allowed. All other fields are ignored.

Errno	Description
EINTERNALERROR	
EINVALIDPASSWORD	

Vfiler-enabled
Yes

useradmin-user-delete

[top]

Deletes a user.

Input Name	Range	Type	Description
user-name		string	The name of the user to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-list

[top]

Lists information for all administrative users on the system with the exception of root and snmp.

Input Name	Range	Type	Description
group-name		string optional	List only the users which are a part of this group. This option must be left empty if the option "user-name" contains a value.
user-name		string optional	List only the information associated with this user. This option must be left empty if the option "group-name" contains a value.
verbose		boolean optional	Default is false. If set to true, then the allowed capabilities are placed into the user-info structure. Depending on number of users, groups, and roles; this operation may take a long time.

Output Name	Range	Type	Description
useradmin-users		useradmin-user-info[]	List of users and information associated with them.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-modify

[top]

Modifies a user given the information provided.

Input Name	Range	Type	Description
useradmin-		useradmin-	A user must have a name. If one or more groups a comment and/or a full-name is provided, the user is modified accordingly. All other fields

user		user-info	are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-modify-password

[top]

Changes the password of a specified user.

Input Name	Range	Type	Description
new-password		string	New password for the user. Please see documentation for constraints on the password.
old-password		string optional	Current password for the user. A user with the capability 'security-passwd-change-others' and at least the same capabilities as the user being changed, does not need to enter the current password in order to change it to a new one.
user-name		string	The user who's password should be changed.

Errno	Description
EINTERNALERROR	
EINVALIDPASSWORD	
EONTAPI_EPERM	

Vfiler-enabled
Yes

Element definition: **sid**

[top]

Windows security identifier describing a user. A SID has the format S-1-5-21-int-int-int-rid.

[none]

Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the group is allowed.

comment		string optional	Comment for the group.
name		string	Name of the group.
rid		string optional	Unique relative identifier (per domain) for this group. (Used only for Windows.)
useradmin-roles		useradmin-role-info[] optional	List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list.

Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the role is allowed.
comment		string optional	Comment for the role.
name		string	Name of the role.

Element definition: **useradmin-user-info**

[top]

Structure containing information pertaining to a user.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the user is allowed.
comment		string optional	Comment for the user. This is only set if the user has a comment.
full-name		string optional	Full name of the user. (Used only for Windows.) This is only set if the user has a full-name.
name		string	Name of the user.
password-maximum-age		integer optional	Number of days that this user's password can be active before the user must change it. Default value is 2^31-1 days.
password-minimum-age		integer optional	Number of days that this user's password must be active before the user can change it. Default value is 0.
rid		string optional	Unique relative identifier (per domain) for this user. (Used only for Windows.)
status		string optional	Current status of the user account. This element cannot be used as an input. It is used as an output for useradmin-user-list. Possible values: "enabled", "disabled", or "expired".
useradmin-groups		useradmin-group-info[]	List of groups this user is part of. The only included entry in this structure is the name field. For full group information user useradmin-group-list.

Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

Name	Range	Type	Description
name		string	Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details.

Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the group is allowed.
comment		string optional	Comment for the group.
name		string	Name of the group.
rid		string optional	Unique relative identifier (per domain) for this group. (Used only for Windows.)
useradmin-roles		useradmin-role-info[] optional	List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list.

Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the role is allowed.
comment		string optional	Comment for the role.
name		string	Name of the role.

Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

Name	Range	Type	Description
name		string	Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details.

APIs in Category: **virtual-machine**

virtual-machine-get-info
virtual-machine-maintenance-event-acknowlege
virtual-machine-maintenance-event-get
virtual-machine-maintenance-event-get-iter
virtual-machine-system-disks-get-iter
vm-disk-object-store-create
vm-disk-object-store-destroy
vm-disk-object-store-dns-cache-create
vm-disk-object-store-dns-cache-destroy
vm-disk-object-store-dns-cache-get-iter
vm-disk-object-store-dns-cache-modify
vm-disk-object-store-get-iter
vm-disk-object-store-modify
vm-network-load-balancer-get-iter

virtual-machine-get-info

[top]

Retrieve virtual machine instance information.

Input Name	Range	Type	Description
desired-attributes		vm-instance-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The name of the node.

Output Name	Range	Type	Description
attributes		vm-instance-info	The attributes of the virtual-machine.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAVMINFOACCESSERROR	

virtual-machine-maintenance-event-acknowlege

[top]

Acknowlege that the system is ready for the event to start

Input Name	Range	Type	Description
event-id		string	Event ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

virtual-machine-maintenance-event-get

[top]

Retrieve virtual machine instance maintenance event information.

Input Name	Range	Type	Description
desired-attributes		vm-instance-maintenance-event optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
event-id		string	A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502.
node		filer-id	The name of the node.

Output Name	Range	Type	Description
attributes		vm-instance-maintenance-event	The attributes of the virtual-machine.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

virtual-machine-maintenance-event-get-iter

[top]

Retrieve virtual machine instance maintenance event information.

Input Name	Range	Type	Description
desired-attributes		vm-instance-maintenance-event optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-instance-maintenance-event optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-

			tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-instance-maintenance-event[] optional	The list of attributes of virtual-machine objects.
next-tag		string optional	Tag for the next call. Not present when there are no more virtual-machine objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

virtual-machine-system-disks-get-iter

[top]

Retrieve Cloud Volumes ONTAP virtual machine system disks details.

Input Name	Range	Type	Description
desired-attributes		virtual-machine-system-disks-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		virtual-machine-system-disks-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine-system-disks object. All virtual-machine-system-disks objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		virtual-machine-system-disks-info[] optional	The list of attributes of virtual-machine-system-disks objects.
next-tag		string optional	Tag for the next call. Not present when there are no more virtual-machine-system-disks objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

EVSAPLATFORMNOTSUPPORTED	
EVSAVMINFOACCESSERROR	

vm-disk-object-store-create

[top]

Define the configuration for an object store.

Input Name	Range	Type	Description
azure-account		string	Azure Storage Account.
azure-private-key		string	Azure Storage Account Access Key.
container-name		string	Container Name.
node		filer-id	ONTAP Node Name.
object-store-name		object-store-name	ONTAP Name for this Object Store Config.
port	**[0..65535]**	integer	Port Number of the Object Store.
server		string	Fully Qualified Domain Name of the Object Store Server.
update-partner		boolean optional	Required parameter when the system is running in an HA configuration.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAOBJECTSTOREDUPLICATE	
EVSAOBJECTSTORENAMETOOLONG	
EVSAOBJECTSTORENAMETOOSHORT	
EVSAOBJECTSTORENAMENOTVALID	
EVSAOBJECTSTORENAMEINVALIDFIRSTCHAR	
EVSAOBJECTSTORENAMEINUSE	
EVSAREQUPDATEPARTNER	
EVSANOPARTNERNAME	
EVSAINVALIDOPTIONUPDATEPARTNER	
EVSAOBJECTSTORECONFIGSYNC	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	
E_OBJSTORE_CLIENT_OTHER	

vm-disk-object-store-destroy

[top]

Deletes the disk object store.

Input Name	Range	Type	Description
node		filer-id	ONTAP Node Name.
object-store-name		object-store-name	ONTAP Name for this Object Store Config.
update-partner		boolean optional	Update HA Partner

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAREQUPDATEPARTNER	
EVSANOPARTNERNAME	
EVSAINVALIDOPTIONUPDATEPARTNER	

vm-disk-object-store-dns-cache-create

[top]

Add a DNS mapping to the cache.

Input Name	Range	Type	Description
hostname		string	Hostname of the Object Store Server.
ipaddress		ip-address	IP Address of the Object Store Server.
node		filer-id	The name of the Node.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

vm-disk-object-store-dns-cache-destroy

[top]

Delete a DNS mapping from the cache.

Input Name	Range	Type	Description
hostname		string	Hostname of the Object Store Server.
node		filer-id	The name of the Node.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

vm-disk-object-store-dns-cache-get-iter

[top]

Iterate over the list of cached DNS mappings.

Input Name	Range	Type	Description
desired-attributes		vm-disk-object-store-dns-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-disk-object-store-dns-cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store-dns-cache object. All vm-disk-object-store-dns-cache objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-disk-object-store-dns-cache-info[] optional	The list of attributes of vm-disk-object-store-dns-cache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vm-disk-object-store-dns-cache objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vm-disk-object-store-dns-cache-modify

[top]

Modify a DNS mapping in the cache.

Input Name	Range	Type	Description
hostname		string	Hostname of the Object Store Server.
ipaddress		ip-address	IP Address of the Object Store Server.
node		filer-id	The name of the Node.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

vm-disk-object-store-get-iter

[top]

Iterate over the list of object store configurations.

Input Name	Range	Type	Description
desired-attributes		vm-disk-object-store-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-disk-object-store-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store object. All vm-disk-object-store objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-disk-object-store-info[] optional	The list of attributes of vm-disk-object-store objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vm-disk-object-store objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vm-disk-object-store-modify

[top]

Modify the configuration of an object store.

Input Name	Range	Type	Description
azure-private-		string	Azure Storage Account Access Key.

key		optional	
node		filer-id	ONTAP Node Name.
object-store-name		object-store-name	ONTAP Name for this Object Store Config.
server		string optional	Fully Qualified Domain Name of the Object Store Server.
update-partner		boolean optional	Required parameter when the system is running in an HA configuration.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAREQUPDATEPARTNER	
EVSANOPARTNERNAME	
EVSAINVALIDOPTIONUPDATEPARTNER	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	
E_OBJSTORE_CLIENT_OTHER	

vm-network-load-balancer-get-iter

[top]

Retrieve network load balancer information.

Input Name	Range	Type	Description
desired-attributes		vm-network-load-balancer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-network-load-balancer-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-network-load-balancer-info[] optional	The list of attributes of virtual-machine objects.
next-tag		string optional	Tag for the next call. Not present when there are no more virtual-machine objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **object-store-name**

[top]

Name of the object store

[none]

Element definition: **virtual-machine-system-disks-info**

[top]

Cloud Volumes ONTAP virtual machine system disks. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	The name of the node. Attributes: key, required-for-create, non-modifiable
vmdisk-bus-target-lun-id		string optional	Bus-Target-LUN ID for the disk. Attributes: non-creatable, non-modifiable
vmdisk-capacity		string optional	Size of the system disk Attributes: non-creatable, non-modifiable
vmdisk-file-name		string optional	File name of the system disk used by the hypervisor. Attributes: non-creatable, non-modifiable
vmdisk-id		string optional	System Disk ID. Attributes: non-creatable, non-modifiable
vmdisk-info		string optional	Platform-specific disk information. Attributes: non-creatable, non-modifiable
vmdisk-purpose		string optional	Purpose of the System Disk - Boot, NVRAM or Core. Attributes: key, required-for-create, non-modifiable
vmdisk-type		string optional	Type of the system disk - VMDISK or SSD. Attributes: non-creatable, non-modifiable

Element definition: **vm-disk-object-store-dns-cache-info**

[top]

VM Disk Object Store DNS Cache. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hostname		string optional	Hostname of the Object Store Server. Attributes: key, required-for-create, non-modifiable
ipaddress		ip-address optional	IP Address of the Object Store Server. Attributes: required-for-create, modifiable
lookup-		datetime	Last time a DNS lookup was performed. Attributes: non-creatable, non-

time		optional	modifiable
node		filer-id optional	The name of the Node. Attributes: key, required-for-create, non-modifiable

Element definition: **vm-disk-object-store-info**

[top]

VM Disk Object Store Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alive		boolean optional	Is Server Alive. Attributes: non-creatable, non-modifiable
azure-account		string optional	Azure Storage Account. Attributes: required-for-create, non-modifiable
container-name		string optional	Container Name. Attributes: required-for-create, non-modifiable
node		filer-id optional	ONTAP Node Name. Attributes: key, required-for-create, non-modifiable
object-store-name		object-store-name optional	ONTAP Name for this Object Store Config. Attributes: key, required-for-create, non-modifiable
port	**[0..65535]**	integer optional	Port Number of the Object Store. Attributes: required-for-create, non-modifiable
server		string optional	Fully Qualified Domain Name of the Object Store Server. Attributes: required-for-create, modifiable
update-partner		boolean optional	Required parameter when the system is running in an HA configuration. Attributes: optional-for-create, modifiable

Element definition: **vm-instance-info**

[top]

Virtual machine instance information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-id		string optional	The cloud provider-associated account ID for this virtual machine, for example 122047257761. This parameter is usually associated with a cloud provider login ID and password. Attributes: non-creatable, non-modifiable
automatic-restart		string optional	Automatic restart policy setting. Attributes: non-creatable, non-modifiable
availability-zone		string optional	A distinct location within a region that is insulated from failures in other availability zones. It provides low-latency network connectivity to other availability zones in the same region. A typical availability zone name might be us-east-1d which would reside within the us-east-1 region. Attributes: non-creatable, non-modifiable
cpu-platform		string optional	CPU platform of the instance Attributes: non-creatable, non-modifiable
fault-domain	**[0..2^32-1]**	integer optional	A cloud provider-assigned numerical fault domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable
image-id		string optional	The image ID installed on this virtual machine instance, for example ami-26bahc7c. It identifies a pre-defined template of a computing device's software environment. It contains the operating system and can also include application software, such as database servers, middleware, and web servers. In this case, the ID refers to an image that contains everything required to run Data ONTAP in the cloud. Attributes: non-creatable, non-modifiable
instance-id		string optional	A cloud provider-supplied unique instance ID for this virtual machine, for example i-a9d42f89 or db00a7755a5e4e8a8fe4b19bc3b330c3.1 Attributes: non-creatable, non-modifiable
instance-type		string optional	A specification (as defined by the cloud provider) that defines the memory, CPU, storage capacity and usage cost for a virtual machine instance. Some intance types are designed for standard applications, whereas others are designed for CPU-intensive or memory-intensive applications and so on. m3.xlarge is an example of an instance-type. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node. Attributes: key, non-creatable, non-modifiable
offer		string optional	A Marketplace is an online store that offers applications and services either built on or designed to integrate with a particular cloud provider. A virtual machine offer corresponds to a class of product offering from a publisher. An offer is a collection of SKUs. Every offer appears as its own entity in the provider Marketplace. Attributes: non-creatable, non-modifiable
on-host-maintenance		string optional	VM Policy setting when hypervisor host maintenance occurs. Attributes: non-creatable, non-modifiable
primary-ip		string optional	The primary IP address assigned to this virtual machine instance, e.g. 192.168.0.1. Attributes: non-creatable, non-modifiable
provider		string optional	The Provider on which this instance is running. Attributes: non-creatable, non-modifiable
region		string optional	A named set of resources in the same geographical area. For example us-east-1 might be the name for a collection of compute and storage resources on the eastern coast of the United States. Typically a region contains multiple availability zones. Attributes: non-creatable, non-modifiable
resource-group-name		string optional	Resource group for the instance. Attributes: non-creatable, non-modifiable
			A SKU is the smallest purchasable unit of an offer. While within the

sku		string optional	same product. class (offer), SKUs allow you to differentiate between different features supported, VM image types and billing models supported. Attributes: non-creatable, non-modifiable
sku-version		string optional	The version for this virtual machine SKU. Attributes: non-creatable, non-modifiable
update-domain	**[0..2^32-1]**	integer optional	A cloud provider-assigned numerical update domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable
version		string optional	The instance metadata version of this virtual machine instance. Attributes: non-creatable, non-modifiable

Element definition: **vm-instance-maintenance-event**

[top]

Virtual machine instance maintenance event. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event-id		string optional	A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502. Attributes: key, non-creatable, non-modifiable
event-status		maint-event-status optional	Scheduled or Started. Attributes: non-creatable, non-modifiable Possible values: • "scheduled" , • "started"
event-type		maint-event-type optional	Freeze, Reboot, or Redeploy. Attributes: non-creatable, non-modifiable Possible values: • "freeze" , • "reboot" , • "redeploy"
node		filer-id optional	The name of the node. Attributes: key, non-creatable, non-modifiable
not-before-time		datetime optional	The event will not start before the indicated time, for example: Mon, 19 Sep 2018 18:29:47 GMT. Attributes: non-creatable, non-modifiable

Element definition: **vm-network-load-balancer-info**

[top]

Network load balancer information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active		boolean optional	Network load balancer is actively receiving health probe requests on this TCP port. Attributes: non-creatable, non-modifiable
last-probe-time		datetime optional	The timestamp of the most recent health probe request on this TCP port. Attributes: non-creatable, non-modifiable
lif-id	**[0..2^32-1]**	integer optional	ONTAP LIF ID. Attributes: key, non-creatable, non-modifiable
lif-name		string optional	ONTAP LIF Name. Attributes: non-creatable, non-modifiable
node		filer-id optional	The name of the node. Attributes: key, required-for-create, non-modifiable
probe-port	**[0..65535]**	integer optional	A TCP port which is regularly probed by the network load balancer. When the TCP port is healthy and open, the network load balancer will continue sending traffic to an associated network route. When unhealthy, the network load balancer will redirect all traffic intended for this route to an alternate route. Attributes: non-creatable, non-modifiable
remove-listener		boolean optional	Whether or not ONTAP has programmatically told the netwwork load balancer to stop listening on the health probe associated with this LIF. Attributes: non-creatable, non-modifiable
vserver-name		string optional	Vserver Name. Attributes: non-creatable, non-modifiable

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filer-id** [top]

Filer UUID

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **maint-event-status**

[top]

Cloud provider maintenance event status Possible values:

- "scheduled" ,
- "started"

[none]

Element definition: **maint-event-type**

[top]

Cloud provider maintenance event types Possible values:

- "freeze" ,
- "reboot" ,
- "redeploy"

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **object-store-name**

[top]

Name of the object store

[none]

APIs in Category: **volume**

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volume-mount
volume-move-get-iter
volume-move-pause

volume-move-resume
volume-move-start
volume-move-target-aggr-get-iter
volume-move-trigger-abort
volume-move-trigger-cutover
volume-offline
volume-offline-async
volume-online
volume-online-async
volume-options-list-info
volume-rehost
volume-rename
volume-rename-async
volume-restrict
volume-restrict-async
volume-scrub-list-info
volume-scrub-resume
volume-scrub-start
volume-scrub-stop
volume-scrub-suspend
volume-set-language
volume-set-option
volume-set-total-files
volume-size
volume-size-async
volume-space-get-iter
volume-split
volume-tiering-policies-list
volume-transition-check
volume-transition-prepare-to-downgrade
volume-transition-protect
volume-unmount
volume-verify-list-info
volume-verify-resume
volume-verify-start
volume-verify-stop
volume-verify-suspend
volume-wafl-info

volume-add

[top]

Adds disks to the given traditional volume. Specify the disks to add in the same way as for 'volume-create'. Disks cannot be added to a mirrored traditional volume if one of its plexes is offline. Addition of the specified disk(s) may not have completed by the time the API returns. Use 'volume-list-info' to query the traditional volume's status, and thus determine when the disk addition is complete. It is not possible to add disks directly to a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-add' to add the desired disks there (which, of course, will make their storage available to all flexible volumes contained in that same aggregate).

Input Name	Range	Type	Description

disk-count		integer optional	Number of disks to add, including parity disks. The disks will come from the spare pool. The smallest disks in the spare pool join the volume first, unless "disk-size" is specified as an argument. Range : [0..2^31-1].
disk-size		integer optional	The disk size in 4KB blocks. Disks that are within approximately 20% of the specified size are selected for use in the traditional volume. If neither the "disk-size" nor the "disk-size-with-unit" is specified, the smallest disks in the spare pool join the traditional volume first. This option is ignored if a specific list of disks to use is provided via the "disks" argument. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-size-with-unit		string optional	The disk size in specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is provided via the "disks" argument. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disks		disk-info[] optional	Specific list of disks to add to the traditional volume. If the traditional volume is mirrored and a specific disk list is supplied, another list ("mirror-disks") must also be supplied with the same number of disks.
force		boolean optional	Disks in a plex are not permitted to span spare spare pools. This behavior is overridden with this option when it is set to "true".
mirror-disks		disk-info[] optional	Specific list of mirror disks needed to accompany the list in the "disks" argument. This list must contain the same number of disks specified in "disks".
raid-group		string optional	Specifies the RAID group (for example, 'rg0') to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the traditional volume can no longer be reverted to a version of ONTAP prior to 6.2. In such a case, the "force" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose a traditional volume currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this traditional volume, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups.
volume		string	Name of the traditional volume to which disks are to be added.

Output Name	Range	Type	Description
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.

Errno	Description
EINTERNALERROR	
EVOLUMERGINVALID	
EINVALIDINPUTERROR	
EVOLUMEDISKSIZEINVALID	
EVOLUMEDISKDUP	
EDISKTYPEWRONGFORVOL	

volume-autosize-get

[top]

Given the name of a volume, get the autosize settings. This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
volume		string	The name of the volume for which we want to get autosize.

Output Name	Range	Type	Description
grow-threshold-percent		integer optional	The threshold capacity percentage at which the volume automatically grows. Range : [0..100]
increment-size		string optional	The increment size by which the volume would be grown, in kbytes.
is-enabled		boolean	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. When this parameter is 'true', the 'grow' autosize mode is in effect, while 'false' means that the autosize mode to 'off'.
maximum-size		string	The maximum size to which the volume would be grown automatically, in kbytes.
minimum-size		string optional	The minimum size to which the volume would be shrunk automatically, in kbytes.
mode		string optional	The operating mode of autosize. Valid values are "grow", "grow_shrink", and "off".
shrink-threshold-percent		integer optional	The threshold capacity percentage at which the volume automatically shrinks. Range : [0..100]

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

Vfiler-enabled
Yes

volume-autosize-set

[top]

Given the name of a volume, set the autosize settings. This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
grow-threshold-percent		integer optional	Specifies the percentage of the flexible volume's capacity at which autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100]
increment-		string	Specify the flexible volume's increment size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes',

size		optional	'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value of increment size is 5%.
is-enabled		boolean optional	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'.
maximum-size		string optional	Specify the flexible volume's maximum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size.
minimum-size		string optional	Specify the flexible volume's minimum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size.
mode		string optional	Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off".
reset		boolean optional	Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults.
shrink-threshold-percent		integer optional	Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100]
volume		string	The name of the flexible volume for which we want to set autosize.

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-autosize-set-async

[top]

Given the name of a volume, set the autosize settings. This API is not supported for flexible volumes or Infinite Volumes.

Input Name	Range	Type	Description
			Specifies the percentage of the flexible volume's capacity at which

grow-threshold-percent		integer optional	autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100]
maximum-size		string optional	Specify the flexible volume's maximum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size.
minimum-size		string optional	Specify the flexible volume's minimum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size.
mode		string optional	Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off".
reset		boolean optional	Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults.
shrink-threshold-percent		integer optional	Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100]
volume		string	The name of the flexible volume for which we want to set autosize.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-clone-create

[top]

Create a flexible volume that is a clone of a "backing" or "parent" flexible volume. A clone is a volume that is a writable snapshot of another volume. Initially, the clone and its parent share the same storage; more storage space is consumed only as one volume or the other changes. If a specific snapshot name within the parent volume is provided, it is chosen as the parent snapshot. Otherwise, the filer will create a new, distinctively- named snapshot in the parent volume for that purpose. The parent snapshot is locked in the parent volume, preventing its deletion until the clone is either destroyed or split from the parent using the 'volume-clone-split-start' command (see below). This command fails if the chosen parent volume is currently involved in a split operation. This command also fails if the chosen parent volume is a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

Input Name	Range	Type	Description
comment		string optional	A description for the clone volume being created. The maximum length of the description is 1023 characters.
force-worm-clone		boolean optional	If set to 'true', forces the creation of clone on a worm volume. If set to 'false', clone creation on any worm volume will fail, because clones of worm volumes are not deletable until all the inherited worm files on newly created clone have expired. Default value is false.
gid	**[1..2^32-1]**	integer optional	The UNIX group ID for the clone volume.
junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.
junction-path		string optional	The Junction Path at which this volume is to be mounted. The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An example of a valid junction path is: '/user/my_volume'. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned.
match-parent-storage-tier		boolean optional	Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same.
parent-snapshot		string optional	Name of the snapshot within 'parent-volume' that is to serve as the parent snapshot for the clone. If not provided, the filer will create a new snapshot named 'clone_parent_' (using a freshy-generated UUID) in 'parent-volume' for this purpose.
parent-volume		string	Name of the parent flexible volume for the clone.
parent-vserver		string optional	Parent flexible volume's Vserver.
qos-policy-			The QoS Policy Group Name that is to be associated with this FlexClone volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will

group-name		string optional	not monitor and control the traffic to it. Note that "none" is a reserved keyword used to remove the association of a storage object to a QoS policy group. Specifying "none" as a QoS policy group in this command would have no effect.
space-reserve		string optional	Specifies the type of volume guarantee for the clone. Possible values: none, file, volume. If this argument is not provided, then guarantee type is inherited from parent volume.
uid	**[1..2^32-1]**	integer optional	The UNIX user ID for the clone volume.
volume		string	Desired name of the clone.
volume-type		string optional	The type of the volume to be created. Possible values: • "rw" - read-write volume (default setting), • "dp" - data-protection volume If not provided, the filer will assume the default value i.e. "rw" volume. Creation of data-protection volume clone is only allowed from parent-volume which is paloma logical DP volume.
vserver		string	Name of the Vserver in which the clone will be created.
vserver-dr-protection		string optional	Specifies the protection type for the volume in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination.

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EVOL_ALREADY_MOUNTED	
EINVALIDINPUTERROR	
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTBUSY	
EDP_CLONE_NOT_ALLOWED	
ESNAPSHOT_NOT_EXPORTED	
EONTAPI_EEXIST	
EVOL_MAX_CLONEDEPHREACHED	
EONDEMAND_CANT_CREATE_FILE	
EVSERVER_OP_NOT_ALLOWED	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_VOL_TYPE_UNSUPPORTED	
EPARENT_NOT_DP_VSERVER_WHEN_CLONE_IN_DIFFERENT_VSERVER	
E_PROTECTION_HANDLING_FAILED	
E_GUARANTEED_CLONE_CANT_BE_LOGICALLY_ENFORCED	

Vfiler-enabled
Yes

volume-clone-get

[top]

Display details of a specific FlexClone volume

Input Name	Range	Type	Description
desired-attributes		volume-clone-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
volume		string	FlexClone Volume

Output Name	Range	Type	Description
attributes		volume-clone-info	The attributes of the volume.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTCLONE	
EVOL7MSNAPSHOT	

volume-clone-get-iter

[top]

Display a list of FlexClone volumes

Input Name	Range	Type	Description
desired-attributes		volume-clone-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 10
query		volume-clone-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		volume-clone-	The list of attributes of volume objects.

list		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-clone-split-estimate

[top]

Display an estimate of additional storage required in the underlying aggregate to perform a volume clone split operation. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

Input Name	Range	Type	Description
volume		string	The name of the clone whose split usage is being estimated.

Output Name	Range	Type	Description
clone-split-estimate		clone-split-estimate-info[]	An estimate of the number of blocks required in the enclosing aggregate to split a clone from its parent.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTCLONE	
EVOLUMENOTONLINE	
EVOLUMEINUSE	
EINTERNALERROR	

Vfiler-enabled
Yes

volume-clone-split-start

[top]

Begin the process by which the given clone is split off from its underlying parent volume and snapshot. New storage is allocated for the clone that is distinct from its parent. This process may take some time and proceeds in the background. Use the 'volume-clone-split-status' command to view the operation's progress. Both clone and parent volumes remain available during the process of splitting them apart. Upon completion, the snapshot on which the clone was based will be unlocked in the parent volume. Any snapshots in the clone are removed at the end of processing. Use the 'volume-clone-split-stop' command to stop this process. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

In Data ONTAP Cluster-Mode, a job is created to perform the split operation. The job id of the job is returned in the API response. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
match-parent-storage-tier		boolean optional	Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same.
volume		string	Name of the clone that we want split off from its parent volume and snapshot.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	error code, if the operation caused an error.
result-error-message		string optional	error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The job id of the job that was queued to split the clone volume.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTCLONE	
EVOL_SCAN_INIT_FAILED	
EVOL_CLONE_BEING_SPLIT	
EVSERVER_OP_NOT_ALLOWED	
ECANT_UPDATE_VINFO_MATCH_TIER_FLAG	

Vfiler-enabled
Yes

volume-clone-split-status

[top]

Display the progress in separating clones from their underlying parent volumes and snapshots. If a clone name is specified, then the split status for that clone is provided. If no clone name is provided, then status is provided for all clones currently being split. This command fails if applied to a traditional volume, and EONTAPI_EVOLNOTFLEX is thrown. Cloning is a capability that applies exclusively to flexible volumes. This command fails if the volume specified is not a clone, and EVOLNOTCLONE is thrown. This command fails if the volume specified is not being split, and EVOLOPNOTUNDERWAY is thrown.

Input Name	Range	Type	Description
volume		string optional	The name of the clone being split off from its parent volume and snapshot for which we want status.

Output Name	Range	Type	Description
clone-split-details		clone-split-detail-info[] optional	List of clones that are currently being split from their parent volumes, along with all relevant status information.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEDOESNOTEXIST	
EONTAPI_EVOLNOTFLEX	
EVOLNOTCLONE	
EVOLOPNOTUNDERWAY	
EVOLUMENOTONLINE	
EINTERNALERROR	
EAGGRDOESNOTEXIST	
EONTAPI_ENOSPC	
EPARENTNOTONLINE	

Vfiler-enabled
Yes

volume-clone-split-stop

[top]

Stop the process of splitting off a clone from its parent volume and snapshot. All of the blocks that were formerly shared between the given clone and its parent volume that have already been split off will remain that way. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

Input Name	Range	Type	Description
volume		string	The name of the clone for which we want to stop the process of being split off from its parent volume and snapshot.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEDOESNOTEXIST	
EVOLNOTCLONE	
EVOLOPNOTUNDERWAY	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
ECANT_STOP_SPLIT_IN_OBJCOPY_PHASE	
ECANT_UPDATE_VINFO_SPLIT_STOP_FLAG	

Vfiler-enabled
Yes

volume-container

[top]

Return the name of the containing aggregate for the named flexible volume.

Input Name	Range	Type	Description
volume		string	The name of the flexible volume for which we want the containing

			aggregate.

Output Name	Range	Type	Description
containing-aggregate		string	Name of the given volume's containing aggregate, if applicable.

Errno	Description
EONTAPI_ENOENT	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-create

[top]

Create a volume.

The detailed behavior of this API depends on where it is received:

1. In Data ONTAP Cluster-Mode, create a new flexible volume.

2. In Data ONTAP 7-Mode, create a new flexible, traditional, or sparse volume with the given name and characteristics. Freshly-created traditional volumes may not be operational immediately after the API returns. Use 'volume-list-info' to obtain information about volumes, including the status of the newly-created traditional volume in order to determine when it is fully operational.

This API is not supported for FlexGroups.

Input Name	Range	Type	Description
antivirus-on-access-policy		string optional	{Deprecated, this field does not have any effect on the operation of the volume.} The name of the Anti-Virus On-Access policy. The default policy name is 'default'. If not specified when creating a volume, the Anti-Virus On-Access Policy is inherited from the owning Vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces.
application-io-size		string optional	This field specifies the block size used for volume efficiency compression for the volume. Possible values: • '8K' ... 8K, • 'auto' ... auto
cache-retention-		string	The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:

priority		optional	low - Cache the cold blocks for the lowest time. • normal - Cache the cold blocks for the default time. • high - Cache the cold blocks for the highest time. Default cache retention priority is normal.
caching-policy		string optional	The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. • noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching. • meta-random_write - Same as meta and noread-random_write. • random_read_write-random_write - Same as random_read_write and noread-random_write. • all_read-random_write - Same as all_read and noread-random_write. • all_read_random_write-random_write - Same as all_read_random_write and noread-random_write. • all-random_write - Same as all and noread-random_write. Default caching-policy is auto.
cloud-retrieval-policy		string optional	This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are: • default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. • on-read - This policy retrieves tiered data for all client driven data reads. • never - This policy never retrieves tiered data. • promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud.
constituent-role		string optional	This parameter is not supported.

containing-aggr-name		string optional	**Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below. This input is required for creating a Cluster-Mode volume.
disk-count		integer optional	**Traditional** volumes only. Number of disks to place into the new traditional volume, including the parity disks. The disks in this newly-created traditional volume come from the spare disk pool. The smallest disks in this pool join the traditional volume first, unless the "disk-size" argument is specified. Either "disk-count" or "disks" must be supplied for traditional volumes. Range [0..2^31-1].
disk-size		integer optional	**Traditional** volumes only. Disk size in 4KB blocks. Disks that are within 20% of the specified size will be selected for use in the traditional volume. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-size-with-unit		string optional	**Traditional** volumes only. Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disks		disk-info[] optional	**Traditional** volumes only. Specific list of disks to use for the new volume. If "mirrored" is set to true and a specific list of disks is supplied, the "mirror-disks" list with the same number of disks must also be supplied. Either "disk-count" or "disks" must be supplied when creating traditional volumes.
efficiency-policy		string optional	Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate. This policy can be created using the 'sis-policy-create' API.
encrypt		boolean optional	Specifies whether a volume is encrypted or not.
excluded-from-autobalance		boolean optional	When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing.
export-policy		string optional	The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'.
extent-size		string optional	This field specifies the default extent size for the volume. In case of WAFL volumes, this option would always be set to 4K. For MetaWAFL volumes, the possible values are as follows. Possible values: • '4K' ... 4K, • '8K' ... 8K, • '16K' ... 16K, • '32K' ... 32K
flexcache-		string	The name of the FlexCache policy. The default policy name is 'default'.

cache-policy		optional	This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API.
flexcache-fill-policy		string optional	The name of the FlexCache prefill policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API.
flexcache-origin-volume-name		string optional	The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume.
force		boolean optional	**Traditional** volumes only. Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to "true".
group-id	**[0..2^32-1]**	integer optional	The UNIX group ID for the volume. The default value is 0 ('root').
is-junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.
is-mirrored		boolean optional	**Traditional** volumes only. Specifies that the new traditional volume be mirrored (have two plexes). If set to "true", then the indicated disks will be split across the two plexes. By default, the new volume will not be mirrored.
is-nvfail-enabled		string optional	If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure. For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found. For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume. By default, this value is false.
is-snaplock		boolean optional	Specifies the creation of a SnapLock volume. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock volume is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise volume if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance volume. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock volume, the

			suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock volume, the suggested method is to specify neither snaplock-type nor is-snaplock.
is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false.
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false.
is-vserver-root		boolean optional	If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable.
junction-path		string optional	The Junction Path at which this volume is to be mounted. The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's namespace. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An example of a valid junction path is: '/user/my_volume'. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned.
language-		string	Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are: • 'C' ... POSIX, • 'ar' ... Arabic, • 'cs' ... Czech, • 'da' ... Danish, • 'de' ... German, • 'en' ... English, • 'en_US' ... English (US), • 'es' ... Spanish, • 'fi' ... Finnish, • 'fr' ... French, • 'he' ... Hebrew, • 'hr' ... Croatian, • 'hu' ... Hungarian, • 'it' ... Italian, • 'ja' ... Japanese euc-j, • 'ja_v1' ... Japanese euc-j, • 'ja_JP.PCK' ... Japanese PCK (sjis),

code		optional	• 'ja_JP.932' ... Japanese cp932, • 'ja_JP.PCK_v2' ... Japanese PCK (sjis), • 'ko' ... Korean, • 'no' ... Norwegian, • 'nl' ... Dutch, • 'pl' ... Polish, • 'pt' ... Portuguese, • 'ro' ... Romanian, • 'ru' ... Russian, • 'sk' ... Slovak, • 'sl' ... Slovenian, • 'sv' ... Swedish, • 'tr' ... Turkish, • 'zh' ... Simplified Chinese, • 'zh.GBK' ... Simplified Chinese (GBK), • 'zh_TW' ... Traditional Chinese euc-tw, • 'zh_TW.BIG5' ... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.
max-dir-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which any directory in this volume can grow. For 7-Mode volumes, the default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. For Cluster-Mode volumes, the default setting is 100 MBytes and it allows the directory to hold up to approximately 3,000,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.
max-write-alloc-blocks	**[0..2048]**	integer optional	The maximum number of blocks used for write allocation. This feature is deprecated.
mirror-disks		disk-info[] optional	**Traditional** volumes only. List of mirror disks to use. It must contain the same number of disks specified in "disks".
percentage-snapshot-reserve		integer optional	The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90]
qos-adaptive-policy-group-name		string optional	The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups.
qos-policy-group-name		string optional	The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect.

raid-size		integer optional	**Traditional** volumes only. Specifies the maximum number of disks in each RAID group in the traditional volume. The maximum value for this parameter is of raidsize is 28. The default value is platform-dependent. The valid range of values is also platform-dependent, but never wider than [2..28].
remote-location		string optional	Specifies the remote host and volume name for the origin of the FlexCache. A FlexCache license is necessary for this option to be utilized. The default action is not to create a FlexCache Volume. Format: : Create a sparse volume as a FlexCache for the given remote host and remote volume name. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name. ESERVICENOTLICENSED is returned if the FlexCache service is not licensed. EINVALIDINPUT is returned if the host, or source volume is found to be invalid.
size		string optional	**Flexible** volumes only. The initial size of the new flexible volume. The format to use is: < number > k|m|g|t where "k" means kilobytes, "m" means megabytes, "g" means gigabytes, and "t" means terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. If provided, this argument must be accompanied by the "containing-aggr-name" parameter described above.
snaplock-type		string optional	Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUT is returned if snaplock-type has an illegal value or if is-snaplock has been set to "false". EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running.
snapshot-policy		string optional	The name of the snapshot policy. The default policy name is 'default'. This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs.
space-reserve		string optional	Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume.
			Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**. **none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors. **thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 100 - 100% of the space required for

space-slo		string optional	overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported. **semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved. • Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: ◦ enabled: true ◦ commitment: destroy ◦ trigger: volume ◦ defer-delete: none ◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share In addition, with a value of semi-thick, the following technologies are not supported for the volume: • File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required. • Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed. • Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies.
storage-efficiency-mode		string optional	This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms. Possible values: • 'default' ... default, • 'efficient' ... efficient
storage-service		string optional	This parameter is not supported.
tiering-minimum-cooling-days	**[2..183]**	integer optional	This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling

			window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data.
tiering-policy		string optional	The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are: • snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • none - Volume blocks will not be tiered to the capacity tier. • backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is snapshot-only.
unix-permissions		string optional	Unix permission bits in octal string format. It's similar to Unix style permission bits: In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users. In Data ONTAP Cluster-Mode, for security style "mixed" or "unix", the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style "ntfs", the default setting of '0000' gives no permissions to owner, group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.
user-id	**[0..2^32-1]**	integer optional	The UNIX user ID for the volume. The default value is 0 ('root').
vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary.
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this.
volume		string optional	Name of the volume to create. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. In Data ONTAP 7-mode, the volume names must be unique on a controller.
volume-comment		string optional	A description for the volume being created. Range:[0..1023]
volume-raid-type		string optional	**Traditional** volumes only. Specifies the type of RAID groups to use in the new traditional volume. The default is "raid4" on most platforms. Possible values: raid4, raid_dp, raid_tec.

volume-security-style		string optional	The security style associated with this volume. Possible values: • 'mixed' ... Mixed-style security, • 'ntfs' ... NTFS/Windows-style security, • 'unix' ... Unix-style security (default for Flexible Volume) Security styles don't apply to GX-striped data volumes.
volume-state		string optional	Desired state of the volume after it is created. Possible values: • 'online', • 'restricted', • 'offline'
volume-type		string optional	The type of the volume to be created. Possible values: • "rw" - read-write volume (default setting), • "ls" - load-sharing volume, • "dp" - data-protection volume, • "dc" - data-cache volume (FlexCache)
vserver-dr-protection		string optional	Specifies the protection type for the volume in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination.

Output Name	Range	Type	Description
bad-disks		disk-info[] optional	**Traditional** volumes only. List of disks that were not added. This is only returned if there are bad disks.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMERGSIZEINVALID	
EINVALIDINPUTERROR	
EVOLUMELANGUAGEINVALID	
EVOLUMEDISKSIZEINVALID	
EVOLUMEDISKDUP	
ESERVICENOTLICENSED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLALREADYMOUNTED	
EONTAPI_EWORMNOCLOCK	
EVOLUME_TYPE_NOT_SUPPORTED	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	

E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_DC_VOL_TYPE_UNSUPPORTED	
E_QOS_LS_VOL_TYPE_UNSUPPORTED	
E_QOS_VOL_TYPE_UNSUPPORTED	
E_PROTECTION_HANDLING_FAILED	
E_FAILED_TO_ADD_KEY_INFO_INTO_VLDB	
E_ENCRYPTION_KEY_CREATE_ERR	
E_VV_CANT_CREATE_KEYS_FILE	
E_VV_CANT_ACCESS_KEYS_FILE	
E_ENCRYPTION_RESOURCES_UNAVAILABLE	
EVOL_UNABLE_TO_CREATE_TRASHDIR	

volume-create-async

[top]

Create a volume. The ability to create Infinite Volumes has been removed as of Data ONTAP 9.4. When creating a FlexGroup, four constituents will be created on every aggregate specified in the aggr-list parameter. An aggregate may be specified multiple times to have extra constituents created on it. The default value of four constituents per aggregate can be overriden by specifying a different value for the aggr-list-multiplier parameter. This API is not supported for FlexGroup constituents.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. This parameter is only supported for FlexGroups.
aggr-list-multiplier	**[1..1000]**	integer optional	Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 4. This parameter is only supported for FlexGroups.
application-io-size		string optional	This field specifies the block size used for volume efficiency compression for the volume. Possible values: • '8K' ... 8K, • 'auto' ... auto
auto-provision-as		string optional	
cache-retention-priority		string optional	The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are: • low - Cache the cold blocks for the lowest time. • normal - Cache the cold blocks for the default time.

			• high - Cache the cold blocks for the highest time. Default cache retention priority is normal.
caching-policy		string optional	The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. • noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching. • meta-random_write - Same as meta and noread-random_write. • random_read_write-random_write - Same as random_read_write and noread-random_write. • all_read-random_write - Same as all_read and noread-random_write. • all_read_random_write-random_write - Same as all_read_random_write and noread-random_write. • all-random_write - Same as all and noread-random_write. Default caching-policy is auto. This parameter is only supported for FlexGroups.
cloud-retrieval-policy		string optional	This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are: • default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. • on-read - This policy retrieves tiered data for all client driven data reads. • never - This policy never retrieves tiered data. • promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud.
containing-aggr-name		string optional	**Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below.

efficiency-policy		string optional	Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate. This policy can be created using the 'sis-policy-create' API. This parameter is not supported for FlexGroups.
encrypt		boolean optional	Specifies whether a volume is encrypted or not.
encryption-type		integer optional	This parameter specifies the encryption-type of the FlexGroup created where the system automatically selects aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
excluded-from-autobalance		boolean optional	When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing. This parameter is not supported for FlexGroups.
export-policy		string optional	The name of the Export Policy to be used by the NFS protocol. The default policy name for FlexGroups is 'default'.
flexcache-cache-policy		string optional	The name of the FlexCache policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. This parameter is not supported for FlexGroups.
flexcache-fill-policy		string optional	The name of the FlexCache prefill policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. This parameter is not supported for FlexGroups.
flexcache-origin-volume-name		string optional	The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume. This parameter is not supported for FlexGroups.
group-id	**[0..2^32-1]**	integer optional	The UNIX group ID for the volume. The default value for FlexGroups is 0.
is-junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.
is-nvfail-enabled		boolean optional	If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in the volume's constituents due to an NVRAM failure. The volume's constituents would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume's constituents. By default, this value is true.

is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-vserver-root		boolean optional	If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. This parameter is not supported for FlexGroups.
junction-path		string optional	The Junction Path at which the volume is to be mounted. The fully-qualified pathname in the owning Vserver's namespace at which the volume is mounted. The pathname is case insensitive. This string must begin with '/'. In addition, it must not end with '/'. The pathname must be unique within a Vserver's namespace. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. For FlexGroups the following rules apply: The pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. An example of a valid junction path is: '/user/my_volume'. If the junction-path is not specified, the FlexGroup is not mounted.
language-		string	Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are: • 'C' ... POSIX, • 'ar' ... Arabic, • 'cs' ... Czech, • 'da' ... Danish, • 'de' ... German, • 'en' ... English, • 'en_US' ... English (US), • 'es' ... Spanish, • 'fi' ... Finnish, • 'fr' ... French, • 'he' ... Hebrew, • 'hr' ... Croatian, • 'hu' ... Hungarian, • 'it' ... Italian, • 'ja' ... Japanese euc-j, • 'ja_v1' ... Japanese euc-j, • 'ja_JP.PCK' ... Japanese PCK (sjis),

code		optional	• 'ja_JP.932' ... Japanese cp932, • 'ja_JP.PCK_v2' ... Japanese PCK (sjis), • 'ko' ... Korean, • 'no' ... Norwegian, • 'nl' ... Dutch, • 'pl' ... Polish, • 'pt' ... Portuguese, • 'ro' ... Romanian, • 'ru' ... Russian, • 'sk' ... Slovak, • 'sl' ... Slovenian, • 'sv' ... Swedish, • 'tr' ... Turkish, • 'zh' ... Simplified Chinese, • 'zh.GBK' ... Simplified Chinese (GBK), • 'zh_TW' ... Traditional Chinese euc-tw, • 'zh_TW.BIG5' ... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8' to the language code. This parameter is only supported for FlexGroups.
max-constituent-size	**[0..2^63-1]**	integer optional	The maximum size of each constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on all nodes used by the volume. The smallest value found is chosen as the default for the max-constituent-size for the volume. This parameter is only supported on FlexGroups.
max-dir-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which any directory in the volume's namespace can grow. Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.
nodes		node-name[] optional	Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
percentage-snapshot-reserve		integer optional	The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90]
qos-adaptive-policy-group-name		string optional	The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups.
qos-policy-group-name		string optional	The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect.
	[0..2^64-	integer	The initial size of the volume in bytes. If size is not specified, then it will use the system default which is 20MB for FlexVol volumes and

size	**1]**	optional	100GB per constituent for FlexGroups. For FlexGroups, constituents must be a minimum of 100GB. If the constituents are smaller than this, the FlexGroup will perform less than optimally.
snaplock-type		string optional	Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock license has not been installed. EINVALIDINPUT is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running.
snapshot-policy		string optional	The name of the snapshot policy. This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs. The default policy name for FlexGroups is 'default'.
space-guarantee		string optional	Specifies the type of space guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default guarantee is "volume".
space-reserve		string optional	Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume. This field is mutually exclusive with 'space-guarantee'.
space-slo		string optional	Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**. **none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors. **thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported. **semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.

			Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: ◦ enabled: true ◦ commitment: destroy ◦ trigger: volume ◦ defer-delete: none ◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share In addition, with a value of semi-thick, the following technologies are not supported for the volume: • File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required. • Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed. • Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies.
storage-efficiency-mode		string optional	This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms. Possible values: • 'default' ... default, • 'efficient' ... efficient
support-tiering		boolean optional	This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
tiering-minimum-cooling-days	**[2..183]**	integer optional	This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data.
tiering-policy		string optional	The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are: • snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • none - Volume blocks will not be tiered to the capacity tier.

			• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is snapshot-only.
unix-permissions		string optional	Unix permission bits in octal string format. It's similar to Unix style permission bits: The default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.
use-mirrored-aggregates		boolean optional	This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
user-id	**[0..2^32-1]**	integer optional	The UNIX user ID for the volume. The default value is 0.
vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. This parameter is not supported for FlexGroups.
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this. This parameter is not supported for FlexGroups.
volume-comment		string optional	A description for the volume being created. The maximum length of the description is 1023 characters.
volume-name		string	Name of the volume to create. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.
volume-security-style		string optional	The security style associated with this volume. Possible values: • 'mixed' ... Mixed-style security, • 'ntfs' ... NTFS/Windows-style security, • 'unix' ... Unix-style security (default for FlexGroups) Security styles don't apply to GX-striped data volumes.
volume-state		string	Desired state of the volume after it is created. Possible values:

		optional	'online' (default), • 'restricted', • 'offline'
volume-type		string optional	The type of the volume to be created. Possible values: • 'rw' - read-write volume (default), • 'ls' - load-sharing volume, • 'dp' - data-protection volume, • 'dc' - data-cache volume (FlexCache)
vserver-dr-protection		string optional	Specifies the protection type for the volume in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination. This parameter is not supported for FlexGroups.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMERGSIZEINVALID	
EINVALIDINPUTERROR	
ESERVICENOTLICENSED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLALREADYMOUNTED	
EINSUFFICIENTAGGREGATES	
EVOLUMEIMBALANCE	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS	
E_OLV_FLEXGROUP_NAME_TAKEN	
E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_PHANTOM_AGGR	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	

EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_MCC_UNSUPPORTED	
E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED	
E_OLV_FG_VSERVERDR_UNSUPPORTED	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM	
E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MINIMUM	
E_OLV_FG_CREATE_AUTO_AGGRS_FALSE	

volume-destroy

[top]

Destroy the specified volume or plex. If a flexible volume is specified, all of its blocks are freed and returned to its containing aggregate; no other flexible volumes in the same containing aggregate (if any) are affected. If a traditional volume is specified, all of its plexes are destroyed, and its disks are returned to the appropriate spare pool(s). If a plex is specified, it must be for a mirrored aggregate (which could potentially be embedded in a traditional volume), leaving it unmirrored. Only offline volumes and plexes can be destroyed. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
name		string	Name of an existing volume or plex.

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVOLUME_HAS_VFILER_STORAGE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EOP_DISALLOWED_ON_CLONE_PARENT	
EVOLUME_TYPE_NOT_SUPPORTED	
EVOL_IS_SNAPMIRROR_SOURCE	
EVOL_IS_SNAPMIRROR_SOURCE_DEST	
EVOL_IS_SNAPMIRROR_DEST	
EAUTO_BALANCE_VOLUME_RUNNING	

Vfiler-enabled
Yes

volume-destroy-async

[top]

Destroy a volume. The volume must be unmounted and must be offline before it can be destroyed.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
EAUTO_BALANCE_VOLUME_RUNNING	

volume-encryption-conversion-get-iter

[top]

Display the encryption status of all volumes undergoing encryption

Input Name	Range	Type	Description
desired-attributes		volume-encryption-conversion-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 10
query		volume-encryption-conversion-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-encryption-conversion-	The list of attributes of volume objects.

		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-encryption-conversion-pause

[top]

Pause Volume Encryption Conversion

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-conversion-resume

[top]

Resume Paused Volume Encryption Conversion

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-conversion-start

[top]

Start Encryption Conversion of a Volume

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	

EINVALIDINPUTERROR	
EVOLUMENOTFOUND	
ESERVICENOTLICENSED	
EKEYMANAGERSETUPNOTFOUND	
EREKEYINPROGRESS	

volume-encryption-rekey-get-iter

[top]

Display the encryption status of all volumes undergoing encryption rekey

Input Name	Range	Type	Description
desired-attributes		volume-encryption-rekey-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 10
query		volume-encryption-rekey-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-encryption-rekey-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-encryption-rekey-pause

[top]

Pause Volume Encryption Rekey

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description

EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-rekey-resume

[top]

Resume Paused Volume Encryption Rekey

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-rekey-start

[top]

Rekey a Volume

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	
ESERVICENOTLICENSED	
EKEYMANAGERSETUPNOTFOUND	
EREKEYINPROGRESS	

volume-expand-async

[top]

Allows the user to increase the size of a FlexGroup by adding constituents. The size of the new constituents is determined by the size of the smallest existing constituent.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents.

Input Name	Range	Type	Description
aggr-list		aggr-name[]	Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it.

aggr-list-multiplier	**[1..1000]**	integer optional	Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 1.
volume-name		string	The name of the FlexGroup to expand.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_PHANTOM_AGGR	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	
EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_DOESNT_EXIST	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_EXPAND_NO_QUOTA	
E_OLV_FG_EXPAND_NO_SNAPMIRROR	
E_OLV_FG_EXPAND_NO_DP	

volume-flexgroup-capacity-tier-footprint-get-iter

[top]

Get the current footprint in the capacity tier for FlexGroups.

Input Name	Range	Type	Description
		volume-flexgroup-	Specify the attributes that should be returned. If not present,

desired-attributes		capacity-tier-footprint-info optional	all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-flexgroup-capacity-tier-footprint-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-flexgroup-capacity-tier-footprint-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-flexgroup-deploy-async

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-create-async API without either the 'containing-aggregate' or 'aggr-list' parameters instead.

Deploys a FlexGroup on the cluster.

The FlexGroup is created with 8 constituents on each node in the cluster. The constituents are split equally between the two largest aggregates on each node. If using two aggregrates per node is not possible, all of the constituents are created on the largest aggregate on each node.

This API is only supported on clusters with 4 nodes or less. On clusters with more than 4 nodes, use the volume-create-async API to create FlexGroups.

Input Name	Range	Type	Description
size		integer	The initial size of the new FlexGroup, in bytes. The maximum size of the FlexGroup is limited by the platform maximum FlexVol size multiplied by 8 and multiplied by the number of nodes in the cluster. The size of the FlexGroup is also limited by the available space in the hosting aggregates.

space-reserve		string optional	Specifies the type of volume guarantee the new volume will use. Possible values: none, volume. The default setting on All Flash FAS systems is none, otherwise the default setting is volume. .*
volume-name		string optional	This specifies the name of the FlexGroup. The name of the The FlexGroup can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. The default value for the FlexGroup name is 'fg'.
volume-type		string optional	The type of the volume to be created. Possible values: • 'rw' - read-write volume (default), • 'dp' - data-protection volume,
vserver		string optional	This specifies the Vserver on which the FlexGroup will be located.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS	
E_OLV_FLEXGROUP_NAME_TAKEN	
E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_PHANTOM_AGGR	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	
EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_MCC_UNSUPPORTED	
E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED	
E_OLV_FG_VSERVERDR_UNSUPPORTED	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FG_DEPLOY_TOO_MANY_FLEXGROUPS	
E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS	

E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_FAILED	
E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_AND_ROLLBACK_FAILED	
E_OLV_FG_DEPLOY_AGGREGATE_CREATE_FAILED	
E_OLV_FG_DEPLOY_AGGREGATE_CREATE_AND_ROLLBACK_FAILED	
E_OLV_FG_DEPLOY_NOT_ENOUGH_AGGREGATES	
E_OLV_FG_DEPLOY_NOT_ENOUGH_VALID_AGGREGATES	
E_OLV_FG_DEPLOY_VSERVER_CREATE_FAILED	
E_OLV_FG_DEPLOY_VSERVER_CREATE_AND_ROLLBACK_FAILED	

volume-flexgroup-deploy-simulate-aggr-layout

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-flexgroup-get-create-limits API instead.

Get the aggregate layout that will be created when deploying a FlexGroup.

Return calculated number of aggregates, estimated aggregate capacity, disk count and disk type.

Output Name	Range	Type	Description
aggr-count		integer	The number of aggregates that will be created.
aggr-size		integer	The expected size of each aggregate.
disk-count		integer	Total number of disks used for each aggregate.
disk-type		string	Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK.

Errno	Description
EINTERNALERROR	
EAGGREXISTS	
E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS	

volume-flexgroup-get-create-limits

[top]

Get a preivew of FlexGroup creation. If manually selecting the aggregates to create the FlexGroup, this API will return the minimum and maximum size allowable for the FlexGroup. If using auto provisioinig, this API will return the minimum and maximum size allowable, along with the type of disks that can support the maximum allowable size. If a size is specified, the API will also return the list of aggregates that will be used to create a FlexGroup of the requested size, along with the type of disks that would be used. If a size is specified and a FlexGroup cannot be provisioned for the specified size, the API will not return an error when using auto provisioning. An error is only returned for auto provisioning if no FlexGroup of any size can be created on any aggregates.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it.
			Specifies the number of times to iterate over the aggregates listed

aggr-list-multiplier	**[1..1000]**	integer optional	with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. This parameter is only supported when getting the create limits of a FlexGroup using the aggr-list parameter. Default aggr-list-multiplier is 4.
auto-provision-as		string optional	
encryption-type		integer optional	This parameter specifies the encryption-type of the FlexGroup created where the system automatically creates aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
nodes		node-name[] optional	Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used . This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
size	**[0..2^64-1]**	integer optional	The initial size of the volume in bytes. If size is not specified, then it will use the system default which is the number of constituents times 200MB for FlexGroups.
space-guarantee		string optional	Specifies the type of space guarantee the new volume will use. Possible values: none, volume.
support-tiering		boolean optional	Use this parameter to specify whether FabricPools are selected when creating a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
use-mirrored-aggregates		boolean optional	This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
volume-type		string optional	The type of the volume to be created. Possible values: • "rw" - read-write volume (default setting), • "ls" - load-sharing volume, • "dp" - data-protection volume, • "dc" - data-cache volume (FlexCache)

Output Name	Range	Type	Description
			The number of aggregates the FlexGroup will be created on. This

chosen-aggr-count		integer optional	parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
chosen-aggr-list		aggr-name[] optional	The aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
chosen-aggr-type		string optional	The disk type of the aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
chosen-create-error		string optional	If the size parameter is specified, and creating a FlexGroup at that size is not possible, the error string indicating why will be returned via the chosen create-error parameter.
chosen-provider-type		string optional	The object store provider type of the FabricPools the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true.
max-create-aggr-type		string optional	The disk type of the aggregates that supports the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
max-create-provider-type		string optional	The object store provider type of the FabricPools that support the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true.
max-create-with-dedupe	**[0..2^64-1]**	integer	The maximum sized FlexGroup that can be created with deduplication.
max-create-without-dedupe	**[0..2^64-1]**	integer	The maximum sized FlexGroup that can be created without deduplication.
max-sizes		flexgroup-max-size-entry[] optional	An array of maximum FlexGroup sizes that can be created for each type of disks on the cluster. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
min-create	**[0..2^64-1]**	integer	The minimum sized FlexGroup that can be created. This is based on a minimum constituents size of 100GB.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-flexgroup-get-expand-limits

[top]

Get the minimum and maximum expand limits for a FlexGroup.

Input Name	Range	Type	Description
volume-name		string	This specifies the name of the FlexGroup you want the the limits for.

Output Name	Range	Type	Description

max-aggr-list-with-dedupe		aggr-name[]	Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, with deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it.
max-aggr-list-without-dedupe		aggr-name[]	Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, without deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-flexgroup-get-resize-limits

[top]

Get the minimum and maximum resize limits for a FlexGroup.

Input Name	Range	Type	Description
volume-name		string	This specifies the name of the FlexGroup you want the the limits for.

Output Name	Range	Type	Description
max-resize-with-dedupe		integer	The maximum a FlexGroup can be resized to with deduplication.
max-resize-without-dedupe		integer	The maximum a FlexGroup can be resized to without deduplication.
min-resize		integer	The minimum a FlexGroup can be resized to.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-footprint-get-iter

[top]

Display a list of volumes and their data and metadata footprints in their parent aggregate. The term footprint is used to refer to space that is considered used in an aggregate due to data in a specific volume. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

Input Name	Range	Type	Description
		footprint-	Specify the attributes that should be returned. If not present, all

desired-attributes		info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		footprint-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-footprint object. All volume-footprint objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		footprint-info[] optional	The list of attributes of volume-footprint objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume-footprint objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-get-filer-info

[top]

Get information on what possibilities and parameters exist for volumes on a given filer.

Output Name	Range	Type	Description
allowed-raidtypes		raidtype-info[]	List of RAID types allowed for aggregates on this filer.
checksum-types		string	Checksum types supported by this filer. The possible values: • "zoned" - if all aggregates are Fixed VBN, • "block" - if all aggregates are Block Appended, • "mixed" - if aggregates are mixed (Fixed VBN and Block Appended and Advanced Zoned), • "none" - if no aggregates have zoned or block checksums or advanced_zoned checksum (azcs) or mixed, • "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme.
default-raidtype		string	Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: raid0, raid4, raid_dp, raid_tec.
disk-types		string	Type of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks 520 BPS "4096" if all disks 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS "none" if no disks have 512 or 520 or 4096 BPS.
raidgroup-size		raidgroup-size-info[]	List of the RAID group sizing parameters for each RAID type supported on this filer.

root-volume		string	Current root volume on the filer.
snapshots-max		integer	Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1].

Errno	Description
EINTERNALERROR	

volume-get-iter

[top]

Iterate over a list of volume objects.

Input Name	Range	Type	Description
desired-attributes		volume-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-attributes[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-get-language

[top]

Get the given volume's language mapping.

Input Name	Range	Type	Description
volume		string	Name of the volume for which we want the language mapping.

Output Name	Range	Type	Description
			Set to the volume's language mapping, in the form "LanguageCode (Full

language		string	Name)" (e.g. "en_US (English (US))"). For more information on these values, see 'volume-create'.
language-code		string	Set to the volume's language code, suitable for use as an argument to other functions (e.g. "en_US"). For more information on these values, see 'volume-create'.
nfs-character-set		string	The NFS language mapping character set that is currently in effect for the volume. This field is of the following format: "<nfs-character-set>|<display-name>|<asctime>" Note that "|" is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12." It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d" This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year> E.g., If the volume language code is set to "en_US", the default NFS character set is as follows: "iso-8859-1|iso-8859-1|Thu Oct 1 15:00:53 PDT 1998"
oem-character-set		string	The OEM language mapping character set that is currently in effect for the volume. This field is of the following format: "<oem-code-page>|<display-name>|<asctime>" Note that "|" is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12." It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d" This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year> E.g., If the volume language code is set to "en_US", the default NFS character set is as follows: "cp437|cp437|Thu Oct 1 15:00:53 PDT 1998"

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-get-root-name

[top]

Return the name of the "root" volume on the filer. If this request is executed in the context of a vfiler, the "root" volume of the vfiler will be returned. If this request is executed in the context of a Vserver the "namespace root" volume of the Vserver will be returned. If the "namespace root" volume of the Admin Vserver is requested, EVSERVER_OP_NOT_ALLOWED will be returned.

Output Name	Range	Type	Description
volume		string	Name of the root volume for the filer.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	

Vfiler-enabled
Yes

volume-get-supported-guarantees

[top]

Returns the list of guarantee types that are supported on this volume. This just does semantic checks and so enabling supported guarantees can still fail because of space checks.

Input Name	Range	Type	Description
volume		string	Name of the volume. Ex: flex1, vol0 etc.

Output Name	Range	Type	Description
guarantee-types		guarantee[]	List of guarantee types supported on this volume.

Errno	Description
EVOLUMEDOESNOTEXIST	
EINTERNALERROR	
EOPNOTSUPPORTED	

Vfiler-enabled
Yes

volume-get-volume-path

[top]

Return the junction-path of the volume.

Input Name	Range	Type	Description
is-style-cifs		boolean	CIFS-style-flag
volume		string	Volume Name

Output Name	Range	Type	Description
junction		string	Junction Path

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERNOTFOUND	

volume-list-info

[top]

Get volume status. Note that all RAID-related status items (e.g., 'raid-size', 'raid-status', 'checksum-style') reported for a flexible volume actually describe the state of its containing aggregate.

Input Name	Range	Type	Description
verbose		boolean optional	If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned.
volume		string optional	The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer. Note that if status information for more than 20 volumes is desired, the volume-list-info-iter-* zapis will be more efficient and should be used instead.

Output Name	Range	Type	Description
volumes		volume-info[]	List of volumes and their status information.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EMISSINGVSERVERARGUMENT	
ENODENOTFOUND	
ESNAPMIRRORDESTINATIONBUSY	

Vfiler-enabled
Yes

volume-list-info-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous volume-list-info-iter-start.

Vfiler-enabled
Yes

volume-list-info-iter-next

[top]

Continues an iteration through the list of volumes.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous volume-list-info-iter-start.

Output Name	Range	Type	Description
records		integer	This tells you how many records are being returned from this particular call to volume-list-info-iter-next. When this value is 0, you have retrieved everything.
volumes		volume-info[]	List of volumes and their status information. See volume-list-info for a description of type volume-info.

Vfiler-enabled
Yes

volume-list-info-iter-start

[top]

Starts an iteration through the list of volumes.

Input Name	Range	Type	Description
verbose		boolean optional	If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned.
volume		string optional	The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer.

Output Name	Range	Type	Description
records		integer	This tells you the number of items that have been saved for future retrieval with volume-list-info-iter-next.
tag		string	Tag to be used in subsequent iterations.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

volume-mediascrub-list-info

[top]

Get the RAID media scrubbing status on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing.

Input Name	Range	Type	Description
volume		string optional	Name of traditional volume, plex or RAID group for which media scrub status is desired. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing.

Output Name	Range	Type	Description
mediascrub-details		mediascrub-detail-info[]	List of RAID groups and their media scrub status.

Errno	Description
EINTERNALERROR	

volume-mirror

[top]

Turns an unmirrored traditional volume into a mirrored traditional volume by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-volume" option is specified, is taken from another existing unmirrored volume. The volume must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" argument list option in the same way as with the 'volume-create' and 'volume-add' APIs. The number of disks specified must exactly match the number present in the existing traditional volume. If the disks to use are not explicitly specified, then the appropriate disks are automatically selected to match those already in the traditional volume's existing plex. It is not possible to directly mirror a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-mirror' to mirror that aggregate (which, of course, will case all other volumes contained in the given aggregate to become mirrored as well).

Input Name	Range	Type	Description
force		boolean optional	Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. This safety-drive behavior is overridden when the 'force' option is provided and set to 'true'.
mirror-disks		disk-info[] optional	Specific list of mirror disks to use. It must have the same number of disks as are present in the given traditional volume. The specified disks are not permitted to span disk pools; this behavior can be overridden with the "force" argument.
victim-volume		string optional	The "victim" traditional volume to cannibalize in order to mirror the given traditional volume. The result is a mirrored traditional volume that is otherwise identical to the original volume before the operation. The "victim-volume" is effectively destroyed. "victim-volume" must have been previously mirrored with this volume, then separated via the "volume-split" command. "victim-volume" must be offline.

volume		string	Name of the traditional volume to be mirrored.

Output Name	Range	Type	Description
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEDISKDUP	

volume-modify-iter

[top]

Modify the attributes of a volume or a group of volume objects.

This API is not supported for Infinite Volumes or FlexGroups.

Input Name	Range	Type	Description
attributes		volume-attributes	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		volume-attributes	If modifying a specific volume, this input element must specify all keys. If modifying volume objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were successfully updated. If set to false, the list of volume objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		volume-modify-iter-info[] optional	Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching volume objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of volume objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of volume objects that matched the query and were successfully updated.
success-list		volume-modify-iter-info[] optional	The volume objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOPNOTSUPPORTED	

volume-modify-iter-async

[top]

Modify the attributes of an Infinite Volume, FlexGroup or a group of Infinite Volumes and FlexGroups.

Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation of expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initilization is complete. While in a 'mixed' state, further operations of the Infinite Volume are not possible.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents. This API does not require any license when operating on an Infinite Volume.

Input Name	Range	Type	Description
attributes		volume-attributes	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
		volume-	If modifying a specific volume, this input element must specify all

query		attributes	keys. If modifying volume objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were successfully updated or scheduled for update. If set to false, the list of volume objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		volume-modify-iter-async-info[] optional	Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching volume objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of volume objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of volume objects that matched the query and were successfully updated or scheduled for update.
success-list		volume-modify-iter-async-info[] optional	The volume objects that were successfully updated or scheduled for update. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

volume-mount

[top]

Mount a volume on another volume (parent) with a junction-path. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
activate-junction		boolean optional	This field optionally specifies whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, it does not appear in the owning Vserver's namespace.
export-policy-override		boolean optional	This field optionally specifies whether the parent volume's export policy overrides the mounted volume's Export Policy. The default is false.
			The Junction Path. The fully-qualified pathname in the owning Vserver's namespace at which

junction-path		string	a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's context. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An Infinite Volume has the additional restriction of allowing only one element. An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If this volume is mounted at a different junction path, or if another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned.
volume-name		string	The name of the volume.

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOL_ALREADY_MOUNTED	
EVOL_MOUNT_FAILED	
EJUNCTION_CREATE_FAILED	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-move-get-iter

[top]

Get status of move operation

Input Name	Range	Type	Description
desired-attributes		volume-move-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-move-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		volume-move-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-move-pause

[top]

Pause running volume move operation.

Input Name	Range	Type	Description
volume		string	Volume Name
vserver		string	Vserver Name

Errno	Description
EAPIERROR	
EVOLUMEDOESNOTEXIST	
EVOLUME_MOVE_COMPLETED	

volume-move-resume

[top]

Resume running volume move operation.

Input Name	Range	Type	Description
volume		string	Volume Name
vserver		string	Vserver Name

Errno	Description
EAPIERROR	
EVOLUMEDOESNOTEXIST	
EVOLUME_MOVE_COMPLETED	

volume-move-start

[top]

Initially this API will run a series of checks to determine if the volume can be moved. If any of the checks results in an error or warning, the API will return with an error. The user has to take the necessary corrective action before restarting the move. If all the checks pass, the API will return a success. If "perform-validation-only" is set to true, all the errors and warnings encountered from the

checks will be returned in the errors-warnings output element. The API will return successfully, and the move will not be initiated. By default "perform-validation-only" is false, which means that the destination volume will be created and the move will start. A flexvol can be moved to any aggregate in the cluster, but if the flexvol is a member of an infinite volume it can only be moved to any eligible aggregate within the same vserver. The list of eligible aggregates can be obtained using the "volume-move-target-aggr-get-iter" API. The Cluster-mode API, supports the actions of "cutover-window", "cutover-attempts" and "cutover-action".The status of the move job can be obtained by using the "volume-move-get-iter" API and "job-get" or "job-get-iter" APIs. If the move fails an EMS message will be generated. The reason for the failure can be obtained from the volume-move-get-iter API.

Input Name	Range	Type	Description
allow-mixed-aggr-types		boolean optional	To allow FlexGroup volume constituents move from a FabricPool to a non-FabricPool, or vice versa. This option is not applicable for Flex Volume move.
cutover-action		string optional	Specifies the action to be taken for cutover. Possible values are "abort_on_failure", "defer_on_failure", "force" and "wait". Default is "defer_on_failure". If "abort_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted, and cleanup if it fails to cutover. If "defer_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted and move into "cutover deferred" state if it fails to cutover. This is the default option. The volume move job waits for intervention to restart the cutover process again. If "force" action is specified, the job will try cutover till the cutover-attempts are exhausted and force the cutover at the expense of disrupting the clients. If "wait" action is specified, when the job hits the decision point, it will not go into cutover automatically, instead it will wait for the user to issue a "volume-move-trigger-cutover" command as the signal to try the cutover.
cutover-attempts	**[1..25]**	integer optional	Number of cutover attempts. Default value is 3
cutover-window	**[30..300]**	integer optional	Time interval to complete cutover in seconds. Default value for Data ONTAP Cluster-Mode volume move is 30 seconds. Default value for Data ONTAP 7-mode volume move is 60 seconds.
dest-aggr		string	Name of the destination aggregate
encrypt-destination		boolean optional	To encrypt destination volume.
encrypt-with-aggr-key		boolean optional	To encrypt destination volume as NAE (NetApp Aggregate Encryption).
generate-destination-key		boolean optional	To generate new encryption key for destination volume.
perform-validation-only		boolean optional	Run pre-checks for the move, return all the errors and warning messages encountered during the checks in the errors-warnings element and exit. The move will not be triggered. Default is false.
source-volume		string	Name of the volume that must be moved
tiering-policy		string optional	The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are: • snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • none - Volume blocks will not be tiered to the capacity tier.

			backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is snapshot-only.
vserver		string optional	Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string optional	The operation status. Possible values: "succeeded", "in_progress", "failed".
volume-move-dedup-warnings		errors-warnings-info[] optional	Volume Move Dedup Warnings
volume-move-error-codes		volume-move-error-code[] optional	Error codes

Errno	Description
EINVALIDINPUTERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUMENOTONLINE	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EALREADYSTARTED	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
EINVALIDSTATE	
ENOTSTARTED	
EONTAPI_EALREADY	
EVFILEROPNOTALLOWED	
EVOLAGGRISIRONING	
EVOLUME_TYPE_NOT_SUPPORTED	
EVOL_CIFS_ENABLED	
EVOL_ONLINE_ERROR	
EVOL_TOO_MANY	
EVOLUME_ADMINOP_NOT_FENCED	
EVOL_NFS_ENABLED	
EOP_DISALLOWED_ON_BUSY_MIRROR	
EOP_DISALLOWED_ON_LOADSHARING_VOL	
EOP_DISALLOWED_ON_CLONE_PARENT	
EOP_DISALLOWED_ON_BACKUP_ACTIVE_VOL	
EOP_DISALLOWED_ON_STRIPED_VOL	

EOP_DISALLOWED_ON_COMPRESSED_VOL	
EOP_DISALLOWED_ON_7MODE_VOL	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EOP_DISALLOWED_ON_VOL_ALREADY_ON_AGGR	
EOP_DISALLOWED_ON_ROOT_AGGR	
ESNAPMIRROR_NOT_INITIALIZED	
EONTAPI_ENOSPCAGGR	
ENDMPRUNNING	
EVOLISGRIDIRONING	
EVOLMOVE_NDMP_DUMPS_RUNNING	
EVOLMOVE_NDMP_RESTORE_RUNNING	
EVOLMOVE_SIS_UNDO_RUNNING	
E_VOL_MOVE_INCOMPATIBLE_VERSION	
E_VOL_MOVE_DC_NOT_ALLOWED	
ENODENOTFOUND	
E_OP_DISALLOWED_ON_AGGR_NOT_IN_VSERVER_LIST	
E_OP_UNSUPPORTED_NO_SPACE_ON_DESTINATION_AGGR	
EVOLUME_RELSTATUS_UNKNOWN	
EINTERNALERROR	
ESNAPMIRRORNOTSUPPORT	
ESNAPMIRRORVOLNOTFOUND	
ESNAPMIRRORINVALIDINPUT	
ESNAPMIRRORINVALIDUUID	
EAPIMISSINGARGUMENT	
ENOMEM	
EVSERVER_OP_NOT_ALLOWED	
ECANNOT_MOVE_TRANSITION_VOLUME	
EVOL_CLONE_BEING_SPLIT	
EVOLMOVE_CANNOT_MOVE_TO_CFO	
EVOLMOVE_CANNOT_MOVE_FROM_CFO_AGGR_IN_TAKEOVER	
E_SAN_MISSING_REQUIRED_LIFS	
E_SAN_NOT_READY	
EVOLMOVE_RECALLING_LOCKS	
EOP_NOTICE_CLONE_PARENT_MOVE	
EOP_NOTICE_NVFAILED_STATE_MOVE	
EOP_NOTICE_CLONE_MOVE_WITH_AUTODELETE_DESTROY	
EOP_NOTICE_CLONE_CHILD_MOVE	
EOP_NOTICE_MOVE_TO_NON_HYBRID_AGGR	
EOP_NOTICE_MOVE_TO_ENCRYPTION	
EOP_NOTICE_MOVE_FROM_ENCRYPTION	
EOP_NOTICE_IDEDUP_MOVE_TO_HYA	
EOP_NOTICE_NO_IDEDUP	
EOP_NOTICE_CROSSVOL_SAVING_LOSS	
EOP_NOTICE_NO_CROSSVOL_IDEDUP_ON_ENCRYPTED	
EOP_NOTICE_CROSSVOL_IDEDUP_MOVE_TO_NON_AFF	
EOP_NOTICE_CROSSVOL_RESUME	
EOP_NOTICE_AUTO_POLICY_MOVE_TO_NON_AFF	
EOP_MOVE_NOTICE_MOVE_DST_MIRROR	

E_FG_CONSTITUENT_MOVE_TIERING_POLICY_NOT_NONE	
EFULL_SYNC_WARNING	
EOP_NOTICE_MOVE_WITH_REKEY	
E_NVMF_LIF_REQUIRED	
E_VOL_MOVE_NVMF_NAMESPACE_NOT_SUPPORTED	
EOP_NOTICE_FC_ORIGIN_STATUS_CHANGE	
EOP_NOTICE_FC_TO_PLAIN_TEXT	

volume-move-target-aggr-get-iter

[top]

Scans aggregates and returns a list of compatible target aggregates for the given volume move operation.

Input Name	Range	Type	Description
allow-mixed-aggr-types		boolean optional	Allow Mixing FabricPool and non-FabricPool
desired-attributes		volume-move-target-aggr-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-tiering-policy		string optional	Volume Tiering Policy
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-move-target-aggr-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
volume-name		string	Volume Name (Required field)
vserver		string	Vserver Name (Required field)

Output Name	Range	Type	Description
attributes-list		volume-move-target-aggr-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	
EOP_DISALLOWED_ON_7MODE_VOL	
EVOLUMENOTONLINE	

volume-move-trigger-abort

[top]

Stop a running volume move operation.

This is an asynchrous API call and it does not wait for the abort to finish before returning. volume-move-get-iter can be used to monitor the progress of the abort and get the status. Unlike 'job stop', this API makes it possible to stop a move job by the vserver and volume name. If the specified volume has completed the volume move operation, an error is returned.

Input Name	Range	Type	Description
source-volume		string	The volume that is part of a completed or running volume move operation.
vserver		string	Vserver Name

Errno	Description
EAPIERROR	
EVOLUMEDOESNOTEXIST	
EVOLUME_MOVE_COMPLETED	

volume-move-trigger-cutover

[top]

Trigger cutover of a move job

Input Name	Range	Type	Description
force		boolean optional	Force cutover
source-volume		string	The name of the volume.
vserver		string optional	Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes.

Errno	Description
EOBJECTNOTFOUND	
EJOBNOTINCUTOVERDEFERRED	
EVSERVER_OP_NOT_ALLOWED	

volume-offline

[top]

Take the specified volume or plex offline, making it unavailable for both user-level data access and RAID-level access (unless it's a flexible volume, at which time its containing aggregate is not affected in

any way, and will remain fully online). The operation takes effect before the API returns except in maintenance mode, when the current root volume may not be taken offline. A volume marked to become the root cannot be taken offline. Taking a flexible volume offline does not affect its containing aggregate in any way. A number of operations being performed on the given volume (or its containing aggregate) can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the command is aborted. A check is also made for files on the volume opened by internal ONTAP processes. The command is aborted if any are found. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
cifs-delay		integer optional	If a volume contains CIFS shares, users should be warned before taking the volume offline. This argument specifies the number of minutes to delay before taking the volume offline, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be taken offline immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0.
name		string	Name of an existing volume or plex. If a volume contains CIFS shares, users should be warned before taking the volume offline. Use "cifs-delay" to specify number of seconds to wait. If a plex is specified, the plex must be part of a mirrored volume, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online.

Errno	Description
EINTERNALERROR	
EVOLUMECIFSTERMINATE	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_IS_ONDEMAND_SOURCE	
EVOLUME_IS_ONDEMAND_DEST	

Vfiler-enabled
Yes

volume-offline-async

[top]

Take the specified volume offline, thereby making it unavailable for data access. The volume must be unmounted before it can be made offline.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-online

[top]

Bring the specified volume or the plex online. This command takes effect immediately. If there are CIFS shares associated with the volume, they are enabled. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
name		string	Name of an existing volume or plex. If a volume is specified, it must be currently offline, restricted, or foreign. If the volume is foreign, it will be made native before being brought online. A ``foreign'' volume is a traditional volume that consists of disks moved from another filer and that has never been brought online on the current filer. Traditional volumes that are not foreign are considered ``native.'' If the volume is inconsistent, but has not lost data, it is advisable to run WAFL_check or wafliron (or do a 'snapmirror initialize' in case of a replica volume) prior to bringing an inconsistent volume online. Bringing an inconsistent volume online increases the risk of further file system corruption. If the volume is inconsistent and has experienced possible loss of data, it cannot be brought online unless WAFL_check or wafliron (or 'snapmirror initialize') has been run on the volume. If a plex is specified, the plex must be part of an online mirrored traditional volume or aggregate. The system will initiate resynchronization of the plex as part of online processing.

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_UNSUPPORTED_OPTION_VMALIGN	

EAGGR_UNSUPPORTED_OPTION_CONTROLLER_REPLACEMENT_TRANSITION	
EVOLUME_UNSUPPORTED_OPTION_SIDL	

Vfiler-enabled
Yes

volume-online-async

[top]

Bring the specified volume online.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVOLUME_HAS_VFILER_STORAGE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-options-list-info

[top]

Get the options that have been set for the specified volume.

Input Name	Range	Type	Description
volume		string	Name of the existing volume for which we want option information.

Output Name	Range	Type	Description
options		volume-option-info[]	List of options set for this volume.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-rehost

[top]

Rehosts a volume from one Vserver into another Vserver. Since volume rehost is a disruptive operation, administrators must stop all data access on target volume before rehosting. On success, target volume is available for data access under destination Vserver. Upon failure the rehost operation is reverted and target volume is available under source Vserver.

Input Name	Range	Type	Description
auto-remap-luns		boolean optional	Flag to control automatic map of LUNs. Default value for this flag is 'false' which means LUNs will not be mapped. Administrators may choose to either manually map LUNs or set this flag to 'true' for automatic map of LUNs.
destination-vserver		string	Destination Vserver name where target volume must reside after successful volume rehost operation
force-unmap-luns		boolean optional	Flag to control automatic unmap of LUNs. Default value for this flag is 'false' which means LUNs will not be unmapped. Administrators may choose to either manually unmap LUNs or set this flag to 'true' for automatic unmap of LUNs.
volume		string	Target volume name
vserver		string	Source Vserver name to which target volume belongs

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EVOLUMEBUSY	
EVRH_PRECHECK	
EVRH_MAX_VOL	
EVRH_MAP_LUN	
EVRH_IN_RELATION	
EVRH_VOL_MOVE_IN_PROGRESS	
EVRH_VOL_NAME_COLLISION	
EVRH_VOL_JUNC_PRESENT	

volume-rename

[top]

Renames the specified volume to a new name specified by "new-volume-name". If the volume is referenced in the /etc/exports file, remember to make the name change in /etc/exports also so that the affected file system can be exported by the filer after the filer reboots. The "volume-rename" command

does not automatically update the /etc/exports file.

This API is not supported for Infinite Volumes or FlexGroups. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

Input Name	Range	Type	Description
new-volume-name		string	New volume name.
volume		string	Name of an existing volume.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-rename-async

[top]

Renames the specified volume to a new name specified by "new-volume-name".

This API is not supported for Flexible Volumes or Infinite Volume constituents. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

Input Name	Range	Type	Description
new-volume-name		string	New name of the volume.
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	

EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-restrict

[top]

Restrict the specified volume, making it unavailable for user-level data access but leaving it (or its containing aggregate, if it's a flexible volume) available to internal OnTAP RAID-level access.

This API is not supported for Infinite Volumes. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
cifs-delay		integer optional	If a volume contains CIFS shares, users should be warned before restricting the volume . This argument specifies the number of minutes to delay before restricting the volume, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be restricted immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0.
name		string	Name of the volume to restrict.

Errno	Description
EINTERNALERROR	
EVOLUMECIFSTERMINATE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-restrict-async

[top]

Restrict the specified volume making it unavailable for data access.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-		string	

message		optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVOLUME_HAS_VFILER_STORAGE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-scrub-list-info

[top]

Get the status of RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing scrubbing. Scrubbing status includes a percent-complete value and its suspended status (if any).

Input Name	Range	Type	Description
name		string optional	Name of an existing traditional volume, plex, or RAID group. If no name is given, then status is generated for all RAID groups currently being scrubbed.
verbose		boolean optional	If set to "true", this operation will be verbose. If not supplied or set to 'false', normal output levels will be used.

Output Name	Range	Type	Description
scrub-details		scrub-detail-info[]	List of RAID groups and their scrub status.

Errno	Description
EINTERNALERROR	

volume-scrub-resume

[top]

Resume RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then resume scrubbing on all RAID groups for which it is suspended.

Input Name	Range	Type	Description
name		string optional	Name of the existing traditional volume, plex, or RAID group for which the scrubbing is to resume.

Errno	Description

Errno	Description
EINTERNALERROR	

volume-scrub-start

[top]

Start RAID parity scrubbing on the named traditional volume, plex, or RAID group. RAID parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If a plex name is given, then scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, then scrubbing is started only in that RAID group. If no name is given, then scrubbing is started on the RAID groups within all online traditional volumes and aggregates. Use 'volume-scrub-list-info' to check scrub status.

Input Name	Range	Type	Description
name		string optional	Name of an existing traditional volume, plex, or RAID group.

Errno	Description
EINTERNALERROR	

volume-scrub-stop

[top]

Stop RAID parity scrubbing on the named volume, plex, or group; if no name is given, on all RAID groups currently undergoing parity scrubbing.

Input Name	Range	Type	Description
name		string optional	Name of an existing volume, plex, or raid-group.

Errno	Description
EINTERNALERROR	

volume-scrub-suspend

[top]

Suspend RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, suspend scrubbing on all RAID groups currently being scrubbed.

Input Name	Range	Type	Description
name		string optional	Name of an existing traditional volume, plex, or RAID group.

Errno	Description
EINTERNALERROR	

volume-set-language

[top]

Set the given volume's language mapping.

Input Name	Range	Type	Description
language-code		string	The new language mapping for the volume. For a list of legal language mapping values, see 'volume-create'.
volume		string	Name of the volume that is to have its language mapping changed.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

volume-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the specified volume. The change remains effective even after the filer is rebooted. Some options have values that are numbers or strings, and others have values that are 'on' (also expressible as 'yes', 'true', or '1') or "off" (also expressible as 'no', 'false', or '0'). A mixture of uppercase and lowercase characters may be used for an option's value. Note that the 'root' option is special in that it does not have an associated value. Also, note that some of these options can NOT be set for a flexible volume, as they relate only to aggregates (either free-standing ones or those embedded in traditional volumes). Other options may only apply for flexible volumes.

Input Name	Range	Type	Description
			Name of the option to be set. Possible values: "convert_ucode" (value: "on" | "off") Setting this option to "on" forces conversion of all directories to UNICODE format when accessed from both NFS and CIFS. By default, it is set to "off", in which case access from CIFS causes conversion of pre-4.0 and 4.0- format directories. Access from NFS causes conversion of 4.0 format directories. This option cannot be set on a Cluster-Mode volume unless it was transitioned from 7-Mode. "snapshot_clone_dependency" (value: "on" | "off") Setting this option "on" will unlock all initial and intermediate backing snapshots for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked. If the option is "off" the backing snapshot will remain locked until all intermediate backing snapshots are deleted. This option is not valid for a Cluster-Mode volume. "create_reserved" This option is no longer supported. "create_ucode" (value: "on" | "off") Setting this option to "on" forces UNICODE format directories to be

created by default, both from NFS and CIFS. The default value is "off", in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. This option cannot be set on a Cluster-Mode volume.

"extent" (value: "on" | "space_optimized" | "off")
Setting this option to "on" enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. Using extents may help workloads that perform many small random writes followed by large sequential reads. However, using extents may increase the amount of disk operations performed on the filer, so this option should only be used where applicable. The default value is "off", in which case extents are not used. The value "space_optimized" indicates extent updates will not duplicate snapshot blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes.

"fractional_reserve" (value: < number >)
This option decreases the amount of space reserved for overwrites of reserved objects (LUNs, files) in a volume. The option is set to 100 by default and indicates that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites. The value can vary from 0 to 100. Using a value of less than 100 indicates what percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion.

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken, or when a "vol/aggr add" is performed on it. This option is automatically set to be "on" when a volume becomes a SnapMirrored. It remains "on" after the "snapmirror break" command is issued for the volume. This option allows a volume to be SnapMirrored back to the source without needing grow the source volume. If the volume size is larger than the file system size, turning off this option forces the file system to grow to the size of the volume.

"guarantee" (value: "none" | "file" | "volume")
Flexible volumes only. Setting this option controls the type of space reservation for the named flexible volume. There are three possible settings. The first, "none", provides no guarantee that there will be enough blocks in the containing aggregate to meet the flexible volume's needs. The second, "file", guarantees there will be enough blocks in the containing aggregate to meet the needs of the specified files in the flexible volume. The third, "volume", is the default setting and guarantees there will be enough blocks available in the containing aggregate to meet the entire flexible volume's needs. An error will be returned if an attempt is made to set this option on a traditional volume.

"ignore_inconsistent" (value: "on" | "off")
This option can only be set in maintenance mode. If set to "on", then the root volume may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency.

"maxdirsize" (value: < number >)
Set the maximum size (in KBytes) to which any directory can grow. The default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this option's setting. This option is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.

"max_write_alloc_blocks" (value: < number >)
Set the maximum number of blocks used for write allocation. The default setting, 0, uses the system-wide default number of blocks, which should be optimal for most users. Some sequential read workloads may benefit from increasing this value. On rare occasions, some multi-stream sequential write workloads may benefit from decreasing this value. Range: [0..2048].

"minra" (value: "on" | "off")
Setting this option to "on" causes the filer to perform minimal read-ahead on this volume. By default, this option is "off", causing the filer to perform very aggressive read-ahead on the volume.

"no_atime_update" (value: "on" | "off")
Setting this option to "on" prevents the update of inode access times when a file is read. This option is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files. It should be used carefully. That is, use this option when you know in advance that the correct access time for inodes will not be needed for files on that volume.

"no_i2p" (value: "on" | "off")
Setting this option to "on" disables inode to parent pathname translations on the volume. The default setting is off.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the volume. This option is not supported for Cluster-Mode volumes.

"nosnapdir" (value: "on" | "off")
Setting this option to "on" disables the visible .snapshot directory that is normally present at system internal mount points. It also turns off access to all other .snapshot directories in the volume.

"nvfail" (value : "on" | "off")
If this option is on, the filer performs additional work at boot time if it finds that there has been any potential data loss due to an NVRAM failure. In such situations, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not

option-name		string	continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The filer sends error messages to the console whenever such problems are found. "raid_cv" (value: "on" | "off") **Traditional** volumes only. Setting the option to "off" disables block checksum protection on the volume. The default is "on". The user is cautioned that turning off the option exposes the filesystem to inconsistency that could be caused by a misbehaving hardware component in the system. "raidsize" (value: < number >) **Traditional** volumes only. The maximum size of a RAID group within the traditional volume. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be. "raidtype" (value: "raid4" | "raid_dp" | "raid_tec") **Traditional** volumes only. The type of RAID group used for this traditional volume. The "raid4" setting provides one parity disk per RAID group, "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the traditional volume. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk. "read_realloc" (value: "on" | "space_optimized" | "off") Setting this option to "on" enables read-reallocation in the volume. This causes application reads to optimize the layout of parts of a file or LUN after the data has been read from disk and is in the appliance memory. The default value is "off". The value "space_optimized" indicates read-reallocate updates will not duplicate blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes. "resyncsnaptime" (value: < number >) **Traditional** volumes only. Sets the RAID mirror resynchronization snapshot frequency to be the given number of minutes. The default value is '60' (minutes). "root" (value: < none >) The specified volume is to become the root volume for the filer on the next reboot. This option can be used on only one volume at any given time. The existing root volume will become a non-root volume after the reboot. Until the system is rebooted, the current root volume will continue to show 'root' as one of its options, and the new root volume will show 'diskroot' as an option. In general, the volume that has the 'diskroot' option value is the one that becomes the root volume following the next reboot. The only way to remove the root status of a volume is to set it on another one. "schedsnapname" (value: "create_time" | "ordinal") Setting the option to "ordinal" causes scheduled snapshots to be named in the hourly.n name format. Setting the value to

"create_time" causes snapshots to use a hourly.yyyy-mm-dd_hhmm name format instead. The default is "ordinal".

"snapmirrored" (value : "off")
If SnapMirror is enabled, the filer automatically sets this option to "on". Set this option to "off" if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable volume. This option can only be set to "off" with this interface. Only the filer can change this option's value from "off" to "on". This option is not settable in Data ONTAP Cluster-Mode. Use "snapmirror-break" API instead.

"try_first" (value : "volume_grow" | "snap_delete")
If the flexible volume is configured to automatically reclaim space if the volume is running out of space, then setting this option to "volume_grow" will cause the volume to increase in size before deleting snapshots. If the option was set to "snap_delete", snapshots will be deleted before the volume size is increased.

"svo_enable" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_allow_rman" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume to allow this volume to contain Oracle RMAN backup data. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_checksum" (value: "on" | "off")
Setting this option to "on" enables SnapValidator checksumming of all writes to this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_reject_errors" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality to reject any write to the volume which fails the SnapValidator checks. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"thorough_scrub" (value: "on" | "off")
Traditional volumes only. Setting the option to "on" enables thorough scrub on a block checksum volume. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"snaplock_autocommit_period" (value: "none" | h|d|m|y)
SnapLock volumes only. This option defines the criteria for committing files to WORM on a SnapLock volume by the autocommit scanner. h, d, m, y denote hours, days, months and years respectively. The default value of this option is "none" that corresponds to autocommit being disabled in the SnapLock volume. The minimum autocommit period on a SnapLock volume is 2h. Any valid value other than "none", specified in hours (h), days (d), months (m) or years (y) would trigger the autocommit scanner on the Snaplock volume.

"snaplock_default_period" (value : min | max | infinite | s|h|d|m|y)

			This option can be set only for **SnapLock** volumes and specifies the default retention period that will be applied to files committed to WORM state without an associated retention period. If this option value is **min** then snaplock_minimum_period is used as the default retention period. If this option value is **max** then snaplock_maximum_period is used as the default retention period. If this option value is **infinite** then infinite retention period will be used as the default retention period. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file "snaplock_maximum_period" (value: infinite | s|h|d|m|y) This option can be set only for **SnapLock** volumes and specifies the maximum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period longer than snaplock_maximum_period will be assigned a retention period equal to snaplock_maximum_period. If this option value is **infinite** then files can be committed for infinite retention period in the volume. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file "snaplock_minimum_period" (value: infinite | s|h|d|m|y) This option can only be set for **SnapLock** volumes and specifies the minimum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period shorter than snaplock_minimum_period will be assigned a retention period equal to snaplock_minimum_period. If this option value is **infinite** then every file committed to the volume will have a infinite retention period. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file
option-value		string	The value to set the named option (except for option 'root', which has no associated value).
volume		string	Name of the volume for which we want to set an option.

Errno	Description
EINTERNALERROR	
ESWAPFILENOSPACE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

EONTAPI_EVOLOPNOTSUPP	
EVSERVER_OP_NOT_ALLOWED	
EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRY_FIRST	

Vfiler-enabled
Yes

volume-set-total-files

[top]

Set a volume's 'files-total' value to the given quantity. This specifies the maximum number of user-visible files that the given volume can hold, as reported by the 'files-total' value within: - the 'volumes' output parameter of the Data ONTAP 7-Mode 'volume-list-info' API, and - the 'attributes-list' output parameter of the Data ONTAP Cluster-Mode 'volume-get-iter' API. Note that this interface corresponds to the following Data ONTAP 7-Mode 'maxfiles' console command and Data ONTAP Cluster-Mode 'volume modify' console command: 'maxfiles <vol-name> <requested_new_max>' 'volume modify -vserver <vserver-name> -volume <volume-name%gt -files <requested_new_max>'

Input Name	Range	Type	Description
force		boolean optional	Indicates whether the filer should reject a legal but "unreasonable" (seemingly too large) value for 'requested-total-files', or accept it without question. By default, legal but "unreasonable" values are rejected.
requested-total-files		integer validate	Specifies the new value for the volume's 'files-total' field. This value must be larger than the volume's current 'files-total' value, and can never be larger than the number of 4KB blocks in the volume. The filer may actually choose a smaller value so as to comply with certain internal accounting and alignment requirements. Once this value has been increased for a volume, it cannot be reduced below the value of 'inodefile-public-capacity' for that volume. Range : [0..2^31-1]
volume		string	The name of the volume whose 'files-total' field we wish to set. The chosen volume must be online and not read-only for this operation to succeed.

Output Name	Range	Type	Description
resulting-total-files		integer	The quantity to which the given volume's 'files-total' field was actually set after all internal requirements and alignments were computed. This quantity will never be larger than 'requested-total-files', and never be smaller than the volume's 'inodefile-public-capacity' value before the request. Range : [0..2^31-1]

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVEROPNOTALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-size

[top]

Given the name of a flexible volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for FlexGroups, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents. Also, this API does not allow to set the volume's size from vFiler context.

Input Name	Range	Type	Description
new-size		string optional	Specify the flexible volume's new size using the following format: [+|-] < number > k|m|g|t] If a leading '+' or '-' appears, it indicates that the given flexible volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The file system size of a readonly replica flexible volume, such as a snapmirror destination, is determined from the replica source. In such cases, the value set using "volume-size" is interpreted as an upper limit on the size. A flexible volume that's not a readonly replica which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly replica flexible volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly replica destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. This option is not applicable from vFiler context. Attempting to set volume size from vfiler context will result in failure with EINTERNALERROR error code being returned.
volume		string	The name of the flexible volume for which we want to get or set its size.

Output Name	Range	Type	Description
is-fixed-size-flex-volume		boolean optional	Is the flexible volume filesystem size fixed?
is-readonly-flex-volume		boolean optional	Is this flexible volume read only?
is-replica-flex-volume		boolean optional	Is this flexible volume a replica volume?
volume-size		string	Either the size we found the given volume to be or the size to which the volume was set (if we're setting its size via the 'new-size' argument above).

Errno	Description
EINTERNALERROR	
EONTAPI_ENOSPC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	

EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-size-async

[top]

Given the name of a volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for flexible volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
new-size		string optional	Specify the volume's new size using the following format: [+|-]< number > [k|m|g|t|p] If a leading '+' or '-' appears, it indicates that the given volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', 't', and 'p' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', 'terabytes', and 'petabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of kilobytes desired. The file system size of a readonly volume, such as a snapmirror destination, is determined from the snapmirror source. In such cases, the value set using this API is interpreted as an upper limit on the size. An volume that's not a snapmirror destination which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly snapmirror destination volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly snapmirror destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. If this input is specified, the size modification occurs asynchronously, and the 'volume-size' output is not returned to the caller. Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation or expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initialization is complete. While in a 'mixed' further operations of the Infinite Volume are not possible. This parameter is not supported on Infinite Volumes that are managed by storage services.
volume-name		string	The name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.

result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".
volume-size		string optional	The size of the volume. This output is returned only if the caller is querying the the size and is not modifying it by specifying the 'new-size' input parameter.

Errno	Description
EINTERNALERROR	
EONTAPI_ENOSPC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_DOESNT_EXIST	
E_OLV_FG_SHRINK_UNSUPPORTED	

volume-space-get-iter

[top]

Display a list of volumes and a breakup of their used space. This information is only available when the volume is online. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

Input Name	Range	Type	Description
desired-attributes		space-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		space-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-space object. All volume-space objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		space-info[] optional	The list of attributes of volume-space objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume-space objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-split

[top]

Remove the specified plex from a mirrored traditional volume and create a new unmirrored traditional volume with the specified name that contains the split-off plex. The original mirrored traditional volume becomes unmirrored. The plex to be split from the original traditional volume must be functional (not partial), but it could be inactive, resyncing, or out-of-date. A 'volume-split' operation can therefore be used to gain access to a plex that is not up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting traditional volume will also be offline. Otherwise, the resulting traditional volume will be in the same online/offline/restricted state as the original traditional volume. Note that a split mirror can be joined back together via the "victim-volume" option to "volume-mirror".

Input Name	Range	Type	Description
new-volume-name		string	Name of the new traditional volume to create from the split plex.
plex		string	Name of the plex to split out of its traditional volume.

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	

volume-tiering-policies-list

[top]

Displays the list of names and descriptions of tiering policies supported in the cluster

Output Name	Range	Type	Description
tiering-policies		system-api-enum-value-info[]	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

volume-transition-check

[top]

Check to see if a desired volume transition can be performed from one volume type to another. Only 7-mode flexible volume to cluster-mode flexible volume and vice versa with limited options are supported at this time.

Input Name	Range	Type	Description
destination-vserver-name		string optional	The name of the vserver into which a volume is being transitioned.
non-		boolean	A 'true' value indicates that only a non-disruptive transition will be

disruptive		optional	accepted. This is not available for all volume configurations. If a value is not specified, this field will default to true - non-disruptive desired.
operation-type		string optional	The type of transition operation; Possible values are: "copy_based" (default) "in_place" "untransition" Copy Based Transition is currently the only supported mode for transition; "in_place" and "untransition" should only be used in testing scenarios.
override-warnings		boolean optional	A 'true' value indicates that all warnings will be ignored as a part of the transition process. The system will select default values as appropriate. If not specified, values will not be overridden.
source-node		string	The name of the node where the target volumes reside.
volumes		volume-transition-volinfo[]	Volumes to check for the ability to transition to Cluster-Mode.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EVOLUMENOTONLINE	
EVOL_TOO_MANY	
EONTAPI_ENOSPC	
EONTAPI_ESYSTEMERR	
EMULTIPLEVOLSFOUND	
EVOLTRANSERROR	
EVOLTRANWARNING	

volume-transition-prepare-to-downgrade

[top]

Verifies that there are no volumes actively transitioning from 7-mode to clustered Data ONTAP, and configures the transition feature for downgrade.

Errno	Description
EINTERNALERROR	
CANNOT_DISABLE_TRANSITION_TDP_VOLUME_EXISTS	

volume-transition-protect

[top]

Fence access to volume during Transition.

Input Name	Range	Type	Description
is-enabled		boolean	Protection Enabled
volume		string	The name of the volume.
vserver		string	The name of the Vserver which owns the volume.

Errno	Description

EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EONTAPI_EINPROGESS	
EVOLTRANSERROR	
EVOLTRANSWARNING	
EVOLTRANSNOTALLOWED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

volume-unmount

[top]

Unmount a volume from its parent volume and delete the junction path at which the volume is mounted. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
force		boolean optional	This specifies whether the volume unmount operation is forced or not. The default value is false. Under certain circumstances, such as an unexpected reboot while in the middle of unmounting, the unmount operation might find that after the reboot, it is unable to delete the junction path at which the volume is mounted in the file system. In this situation, if the force option is set to false, the unmount operation is failed (EJUNCTIONDELETEFAILED), leaving the junction path information intact in the Volume Management Database. Instead, if the force option is set to true, the unmount operation proceeds to delete the junction path information in the Volume Management Database, irrespective of any failure to delete the junction path in the file system.
volume-name		string	The name of the volume.

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOL_NOT_MOUNTED	
EVOL_UNMOUNT_FAILED	
EJUNCTION_DELETE_FAILED	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-verify-list-info

[top]

Get the status of RAID mirror verification on the named traditional volume. Status includes percentage

complete and whether it's currently suspended.

Input Name	Range	Type	Description
volume		string optional	Name of an existing mirrored traditional volume. If no name is given, then mirror verification status is generated for all aggregates currently being verified (including the ones embedded in traditional volumes).

Output Name	Range	Type	Description
verify-details		verify-detail-info[]	List of aggregates (including the ones embedded in traditional volumes) and their RAID mirror verification status.

Errno	Description
EINTERNALERROR	

volume-verify-resume

[top]

Resume RAID mirror verification on the named traditional volume. If no name is given, then resume RAID mirror verification on all aggregates (including those embedded in traditional volumes) that have been suspended.

Input Name	Range	Type	Description
volume		string optional	Name of the existing traditional volume for which RAID mirror verification is to resume.

Errno	Description
EINTERNALERROR	

volume-verify-start

[top]

Start RAID mirror verification on the named traditional volume. RAID mirror verification compares the data in both plexes of a mirrored aggregate (whether it's free-standing or embedded in a traditional volume). In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then RAID mirror verification is started on all online aggregates (including those embedded in traditional volumes). Use either the "aggr-verify-list-info" or "volume-verify-list-info" API to check RAID mirror verification status. If the fix-plex option is used, then a name must be specified.

Input Name	Range	Type	Description
fix-plex		integer optional	If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them.
log-only		boolean optional	If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored.
volume		string optional	Name of the mirrored traditional volume to verify.

Errno	Description
EINTERNALERROR	

volume-verify-stop

[top]

Stop RAID mirror verification on the named traditional volume. If no name is given, stop RAID mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

Input Name	Range	Type	Description
volume		string optional	Name of the traditional volume for which we are to stop RAID mirror verification.

Errno	Description
EINTERNALERROR	

volume-verify-suspend

[top]

Suspend RAID mirror verification on the named traditional volume. If no name is given, suspend mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

Input Name	Range	Type	Description
volume		string optional	Name of the traditional volume for which we are to suspend RAID mirror verification.

Errno	Description
EINTERNALERROR	

volume-wafl-info

[top]

DEFINED HERE FOR BACKWARDS COMPATIBILITY ONLY. CHANGE OVER TO USING THE NEW 'volume-get-filer-info' AS SOON AS POSSIBLE. Get WAFL status information.

Output Name	Range	Type	Description
checksum-types		string	Checksum type. The possible values: • "zoned" - if all volumes are Fixed VBN, • "block" - if all volumes are Block Appended, • "mixed" - if volumes are mixed Fixed VBN and Block Appended and Advanced Zoned, • "none" - if no volumes have zoned or block or advanced_zoned checksum (azcs) or mixed, • "advanced_zoned" - if all volumes in the system have Advanced Zoned Checksum scheme.
			Type of disks. Possible values: 512, 520, 4096, mixed, none. "512" if all disks 512 BPS, "520" if all disks 520 BPS, "4096" if all disks 4096 BPS,

disk-types		string	"mixed" if disks are mixed 512 BPS, 520 BPS and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS.
root-volume		string	Current root volume.
snapshots-max		integer	Maximum number of snapshots available. Range : [0..2^31-1].

Errno	Description
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **clone-split-detail-info**

[top]

Status information about an active clone split.

Name	Range	Type	Description
block-percentage-complete		integer	Percent of the clone's blocks processed to date by the split.
blocks-scanned		integer	Number of the clone's blocks that have been scanned to date by the split.
blocks-updated		integer	Total number of the clone's blocks that have been updated to date by the split.
inode-percentage-complete		integer optional	Percent of the clone's inodes processed to date by the split.
inodes-processed		integer optional	Number of the clone's inodes processed to date by the split.
inodes-total		integer optional	Total number of inodes in the clone.
name		string	Name of the clone being split.

Element definition: **clone-split-estimate-info**

[top]

Estimate information about a future clone split.

Name	Range	Type	Description
estimate-blocks		integer	The estimated number of 4kb blocks required to perform the volume clone split.

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **errors-warnings-info**

[top]

The complete list of errors and warnings if perform-validation-only is true or all the warnings if is-override-warnings is true.

Name	Range	Type	Description
error-warning		string	Error or warning

Element definition: **flexgroup-max-size-entry**

[top]

The maximum FlexGroup size that can be created for an existing disk type.

Name	Range	Type	Description
aggr-type		string	The disk type of the aggregates for this maximum size.
max-size	**[0..2^64-1]**	integer	The maximum FlexGroup size that can be created.
provider-type		string	The object store provider type of the FabricPools for this maximum size. This parameter is only supported when getting the create limits of a FlexGroup where the support-tiering parameter is true.

Element definition: **footprint-info**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dedupe-metafiles-footprint	**[0..2^63-1]**	integer optional	This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-footprint-percent	**[0..100]**	integer optional	This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary-footprint	**[0..2^63-1]**	integer optional	This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary-footprint-percent	**[0..100]**	integer optional	This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
delayed-free-footprint	**[0..2^63-1]**	integer optional	This field represents the delayed free blocks footprint in bytes. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable
delayed-free-footprint-percent	**[0..100]**	integer optional	This field represents the delayed free blocks footprint as a percentage of aggregate size. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable
file-operation-metadata	**[0..2^63-1]**	integer optional	This field represents the file operation metadata footprint in bytes. Attributes: non-creatable, non-modifiable
file-operation-metadata-percent	**[0..100]**	integer optional	This field represents the file operation metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
flexvol-metadata-footprint	**[0..2^63-1]**	integer optional	This field represents flexible volume metadata in bytes. Attributes: non-creatable, non-modifiable
flexvol-metadata-footprint-percent	**[0..100]**	integer optional	This field represents flexible volume metadata as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
snapmirror-destination-footprint	**[0..2^63-1]**	integer optional	This field represents the SnapMirror destination footprint in bytes. Attributes: non-creatable, non-modifiable
snapmirror-destination-footprint-percent	**[0..100]**	integer optional	This field represents the SnapMirror destination footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
tape-backup-metafiles-footprint	**[0..2^63-1]**	integer optional	This fields represents the tape backup metadata footprint in bytes. Attributes: non-creatable, non-modifiable
tape-backup-metafiles-footprint-percent	**[0..100]**	integer optional	This field represents the tape backup metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
total-footprint	**[0..2^63-1]**	integer optional	This field represents the total footprint in bytes. Attributes: non-creatable, non-modifiable
total-footprint-percent	**[0..2^32-1]**	integer optional	This field represents the total footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume		string optional	Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable

volume-blocks-footprint	**[0..2^63-1]**	integer optional	This field represents the footprint of blocks written to the volume in bytes. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin0	**[0..2^63-1]**	integer optional	This field represents the footprint of blocks written to the volume in bytes for the performance tier (bin 0). Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin0-percent	**[0..100]**	integer optional	This field represents the footprint of blocks written to the volume in bin 0 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin1	**[0..2^63-1]**	integer optional	This field represents the footprint of blocks written to the volume in bytes for bin 1. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin1-percent	**[0..100]**	integer optional	This field represents the footprint of blocks written to the volume in bin 1 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-percent	**[0..2^32-1]**	integer optional	This field represents the footprint of blocks written to the volume as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume-guarantee-footprint	**[0..2^63-1]**	integer optional	This field represents the volume guarantee footprint in bytes. Alternatively, it is the space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable
volume-guarantee-footprint-percent	**[0..100]**	integer optional	This field represents the volume guarantee footprint as a percentage of aggregate size. Alternatively, it is the percentage of space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable
vserver		string optional	Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable

Element definition: **guarantee**

[top]

Type of guarantee

Name	Range	Type	Description
type		string	guarantee that is supported on a given volume. Possible values are: "volume", "file", "partial", "none"

Element definition: **mediascrub-detail-info**

[top]

Information about media scrubbing.

Name	Range	Type	Description
mediascrub-status		string	Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active.
percentage-complete		integer optional	Media scrubbing percentage complete. Range: [0..100].
raid-group		string	Name of the RAID group.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

Name	Range	Type	Description
default-size		integer	Default size of a RAID group of this type in aggregates. Range : [6..16].
disktype		string optional	Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK.
maximum-disk-capacity		size optional	Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination.
maximum-size		integer	Maximum size of a RAID group of this type in aggregates. Range : [6..28].
minimum-disk-capacity		size optional	Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination.
minimum-size		integer	Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7.
raidtype		string	Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

Name	Range	Type	Description
raidtype		string	Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **scrub-detail-info**

[top]

Scrubbing information.

Name	Range	Type	Description
is-suspended		boolean	Suspended state of the scrub on that RAID group.
last-scrub-timestamp		integer optional	Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1].
percentage-complete		integer optional	Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100].
raid-group		string	Name of the RAID group involved in the scrub.

Element definition: **space-info**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dedupe-metafiles	**[0..2^63-1]**	integer optional	This field represents space used by deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-percent	**[0..100]**	integer optional	This field represents space used by deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary	**[0..2^63-1]**	integer optional	This field represents space used by temporary deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary-percent	**[0..100]**	integer optional	This field represents space used by temporary deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable
filesystem-metadata	**[0..2^63-1]**	integer optional	This field represents volume filesystem metadata in bytes. Attributes: non-creatable, non-modifiable
filesystem-metadata-percent	**[0..100]**	integer optional	This field represents volume filesystem metadata as a percentage of volume size Attributes: non-creatable, non-modifiable
inodes	**[0..2^63-1]**	integer optional	This field represents space used by inode metadata in bytes. Attributes: non-creatable, non-modifiable
inodes-percent	**[0..100]**	integer optional	This field represents space used by inode metadata as a percentage of volume size. Attributes: non-creatable, non-modifiable
inodes-upgrade	**[0..2^63-1]**	integer optional	This field represents space used by inode metadata for upgrade in bytes. Attributes: non-creatable, non-modifiable
inodes-upgrade-percent	**[0..100]**	integer optional	This field represents space used by inode metadata for upgrade as a percentage of volume size. Attributes: non-creatable, non-modifiable
logical-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically available in the volume. Attributes: non-creatable, non-modifiable

logical-used	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. Attributes: non-creatable, non-modifiable
logical-used-percent	**[0..2^32-1]**	integer optional	This field represents the logical used as a percentage of volume size. Attributes: non-creatable, non-modifiable
performance-metadata	**[0..2^63-1]**	integer optional	This field represents metadata in bytes used for performance optimization. Attributes: non-creatable, non-modifiable
performance-metadata-percent	**[0..100]**	integer optional	This field represents metadata used for performance optimization as a percentage of volume size Attributes: non-creatable, non-modifiable
physical-used	**[0..2^63-1]**	integer optional	The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable
physical-used-percent	**[0..2^32-1]**	integer optional	The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies. Attributes: non-creatable, non-modifiable
quota-metafiles	**[0..2^63-1]**	integer optional	This field represents space used by quota metafiles in bytes. Attributes: non-creatable, non-modifiable
quota-metafiles-percent	**[0..100]**	integer optional	This field represents space used by quota metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapmirror-metadata	**[0..2^63-1]**	integer optional	This field represents space used by metafiles during SnapMirror operations in bytes. Attributes: non-creatable, non-modifiable
snapmirror-metadata-percent	**[0..100]**	integer optional	This field represents space used by metafiles during SnapMirror operations as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapshot-reserve	**[0..2^63-1]**	integer optional	The size (in bytes) in the volume that has been set aside as reserve for snapshot usage. Attributes: non-creatable, non-modifiable
snapshot-reserve-percent	**[0..100]**	integer optional	This field represents the snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapshot-reserve-unusable	**[0..2^63-1]**	integer optional	This field represents Snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable
snapshot-reserve-unusable-percent	**[-2^31..2^31-1]**	integer optional	This field represents Snapshot reserve that is not available as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapshot-spill	**[0..2^63-1]**	integer optional	This field represents space used by Snapshot copies when it exceeds the size of the Snapshot reserve in bytes. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable
snapshot-spill-percent	**[0..100]**	integer optional	This field represents Snapshot spill as a percentage of volume size. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable
tape-backup-metadata	**[0..2^63-1]**	integer optional	This fields represents the tape backup metadata in bytes. Attributes: non-creatable, non-modifiable
tape-backup-			This field represents the tape backup metadata as a

metadata-percent	**[0..100]**	integer optional	percentage of volume size. Attributes: non-creatable, non-modifiable
total-used	**[0..2^63-1]**	integer optional	Total used space in the volume including snapshot reserve in bytes. Attributes: non-creatable, non-modifiable
total-used-percent	**[0..2^32-1]**	integer optional	Total used space in the volume including snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable
user-data	**[0..2^63-1]**	integer optional	This field represents user data in bytes. Alternatively, this is the space reserved to overwrite the data in the volume. Attributes: non-creatable, non-modifiable
user-data-percent	**[0..2^32-1]**	integer optional	This field represents user data as a percentage of volume size. Attributes: non-creatable, non-modifiable
volume		string optional	Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **verify-detail-info**

[top]

Information about mirror verification.

Name	Range	Type	Description
is-suspended		boolean	Is mirror verification suspended for this aggregate?
name		string	Name of the aggregate.
pct-with-precision		string optional	Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12")
percentage-complete		integer optional	Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100].

Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
encrypt		boolean optional	To create an encrypted Volume. This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted. Attributes: optional-for-create, non-modifiable
encryption-state		string optional	The encryption state of a volume. Possible values: • 'none' ... plain-text volume, • 'full' ... encrypted volume, • 'partial' ... volume are in mixed encryption state(valid for FlexGroup only), • 'converting_to_encrypted' ... conversion to encryption operation is in progress, • 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated), • 'rekeying' ... rekey of volume is in progress Attributes: non-creatable, non-modifiable
encryption-type		encryptiontype optional	Encryption type of a volume. Possible values: • 'none' ... plain-text volume, • 'volume' ... NVE (NetApp Volume Encryption) volume, • 'aggregate' ... NAE (NetApp Aggregate Encryption) volume Attributes: optional-for-create, non-modifiable Possible values: • "undefined" - Not defined, • "none" - Plain-text volume, • "volume" - NVE (NetApp Volume Encryption) volume, • "aggregate" - NAE (NetApp Aggregate Encryption) volume, • "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)
			The creation date and time of the key-id.

key-creation-time		string optional	The creation date and time of current key-id of the volume. Attributes: non-creatable, non-modifiable
key-id		string optional	The key-id used for creating encrypted volume. A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key. Attributes: non-creatable, non-modifiable
volume-antivirus-attributes		volume-antivirus-attributes optional	This field contains information about Antivirus On-Access settings for the volume.
volume-autobalance-attributes		volume-autobalance-attributes optional	This field contains information about the state of Auto Balance Aggregate for a volume.
volume-autosize-attributes		volume-autosize-attributes optional	This field contains information about the autosize settings of the volume.
volume-clone-attributes		volume-clone-attributes optional	This field contains information applying exclusively to clone volumes.
volume-comp-aggr-attributes		volume-comp-aggr-attributes optional	This field contains information about composite aggregate attributes of a volume.
volume-directory-attributes		volume-directory-attributes optional	This field contains information related to directories in a volume.
volume-export-attributes		volume-export-attributes optional	This field contains information about export settings of the volume.
volume-flexcache-attributes		volume-flexcache-attributes optional	This field contains information applying exclusively to flexcache volumes.
volume-hybrid-cache-attributes		volume-hybrid-cache-attributes optional	This field contains information on Flash Pool caching attributes on a volume
volume-id-attributes		volume-id-attributes optional	This field contains identification information about the volume.
volume-infinitevol-attributes		volume-infinitevol-attributes optional	This field contains information about the state of an Infinite Volume.
volume-inode-attributes		volume-inode-attributes optional	This field contains information about inodes in a volume.
volume-language-		volume-language-attributes	This field contains information about volume language-related settings.

attributes		optional	
volume-mirror-attributes		volume-mirror-attributes optional	This field contains information applying exclusive to volume mirror.
volume-performance-attributes		volume-performance-attributes optional	This field contains information that relates to the performance of the volume.
volume-qos-attributes		volume-qos-attributes optional	This field contains the information that relates to QoS.
volume-security-attributes		volume-security-attributes optional	This field contains information about volume security settings.
volume-sis-attributes		volume-sis-attributes optional	This field contains information about Deduplication, file clone, compression, etc.
volume-snaplock-attributes		volume-snaplock-attributes optional	This field contains information about snaplock attributes of the volume.
volume-snapshot-attributes		volume-snapshot-attributes optional	This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded.
volume-snapshot-autodelete-attributes		volume-snapshot-autodelete-attributes optional	This field contains information about snapshot autodelete policy settings.
volume-space-attributes		volume-space-attributes optional	This field contains information related to volume disk space management including on-disk layout.
volume-state-attributes		volume-state-attributes optional	This field contains information about the state or status of a volume or its features.
volume-transition-attributes		volume-transition-attributes optional	This field contains information applying exclusively to transitioned or transitioning volumes.
volume-vm-align-attributes		volume-vm-align-attributes optional	This field contains information related to the Virtual Machine alignment settings on a volume
volume-vserver-dr-protection-attributes		volume-vserver-dr-protection-attributes optional	This fields contains information about protection type for the volume in a Vserver DR setup.

Element definition: **volume-clone-info**

[top]

Volume FlexClone typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	FlexClone Aggregate Attributes: non-creatable, non-modifiable
block-percentage-complete	**[0..2^64-1]**	integer optional	Percentage Complete Attributes: non-creatable, non-modifiable
blocks-scanned	**[0..2^64-1]**	integer optional	Blocks Scanned Attributes: non-creatable, non-modifiable
blocks-updated	**[0..2^64-1]**	integer optional	Blocks Updated Attributes: non-creatable, non-modifiable
dsid	**[0..2^64-1]**	integer optional	FlexClone Data Set ID Attributes: non-creatable, non-modifiable
flexclone-used-percent	**[0..100]**	integer optional	FlexClone Used Percentage Attributes: non-creatable, non-modifiable
inherited-physical-used	**[0..2^63-1]**	integer optional	Inherited Physical Used from Base Snapshot Attributes: non-creatable, non-modifiable
inherited-savings	**[0..2^63-1]**	integer optional	Inherited Savings from Base Snapshot Attributes: non-creatable, non-modifiable
junction-active		boolean optional	Junction Active Attributes: optional-for-create, non-modifiable
junction-path		string optional	Junction Path Attributes: optional-for-create, non-modifiable
match-parent-storage-tier		boolean optional	(DEPRECATED)-Match Split Data to Parent Storage Tier Attributes: optional-for-create, non-modifiable
msid	**[0..2^64-1]**	integer optional	FlexClone Master Data Set ID Attributes: non-creatable, non-modifiable
parent-snapshot		string optional	FlexClone Parent Snapshot Attributes: optional-for-create, non-modifiable
parent-volume		string optional	FlexClone Parent Volume Attributes: required-for-create, non-modifiable
parent-vserver		string optional	FlexClone Parent Vserver Attributes: optional-for-create, non-modifiable
qos-adaptive-policy-group-name		string optional	QoS Adaptive Policy Group Name Attributes: optional-for-create, non-modifiable
qos-policy-group-name		string optional	QoS Policy Group Name Attributes: optional-for-create, non-modifiable
size	**[0..2^63-1]**	integer optional	FlexClone Size Attributes: non-creatable, non-modifiable
space-guarantee-enabled		boolean optional	Space Guarantee In Effect Attributes: non-creatable, non-modifiable
space-reserve		string optional	Space Guarantee Style Attributes: optional-for-create, non-modifiable Possible values: • "none" , • "volume"

split-estimate		integer optional	Split Estimate Attributes: non-creatable, non-modifiable
state		string optional	FlexClone Volume State Possible values are: • 'online', • 'offline', • 'restricted'. Attributes: non-creatable, non-modifiable
used	**[0..2^63-1]**	integer optional	Used Size Attributes: non-creatable, non-modifiable
volume		string optional	FlexClone Volume Attributes: key, required-for-create, non-modifiable
volume-type		string optional	The type of the volume to be created. Possible values: • 'rw' ... read-write volume, • 'dp' ... data-protection volume Default value is 'rw'. Attributes: optional-for-create, non-modifiable
vserver		string optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-dr-protection		string optional	Indicates whether the volume will be replicated to the destination in a Vserver DR setup. Possible values are: • 'protected' • 'unprotected' Attributes: optional-for-create, modifiable Possible values: • "protected" - Volume is protected by Vserver DR, • "unprotected" - Volume is not protected by Vserver DR

Element definition: **volume-encryption-conversion-info**

[top]

Volume Encryption Conversion typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
percentage-completed		string optional	Percentage Completed Attributes: non-creatable, non-modifiable
start-time		datetime optional	Start Time Attributes: non-creatable, non-modifiable

status		string optional	Status Attributes: non-creatable, non-modifiable
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-encryption-rekey-info**

[top]

Volume Encryption Rekey typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
percentage-completed		string optional	Percentage Completed Attributes: non-creatable, non-modifiable
start-time		datetime optional	Start Time Attributes: non-creatable, non-modifiable
status		string optional	Status Attributes: non-creatable, non-modifiable
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-flexgroup-capacity-tier-footprint-info**

[top]

FlexGroup Capacity Tier Footprint When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

volume-capacity-tier-footprint		size optional	This field represents the footprint of blocks written to the capacity tier, in bytes, for the FlexGroup. Attributes: non-creatable, non-modifiable
volume-name		volume-name optional	This specifies the name of the FlexGroup for the capacity tier footprint. Attributes: key, non-creatable, non-modifiable
vserver-name		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-info**

[top]

Volume status information.

Name	Range	Type	Description
autosize		autosize-info optional	Display autosize settings of the volume. Appears only under "verbose" mode.
block-type		string	The indirect block format of the volume. Possible values: 32_bit, 64_bit.
checksum-style		string	The style of RAID checksum used (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown • "wafl" - wafl, • "zoned" - zoned.
clone-children		clone-child-info[] optional	**Flexible** volumes only. This field appears for a flexible volume if it is the parent of one or more clones.
clone-parent		clone-parent-info[] optional	**Flexible** volumes only. This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage.
compression		compression-info	Note that the use of this element is deprecated, refer to the 'dense-status' element for compression status instead.
containing-aggregate		string optional	**Flexible** volumes only. The name of the aggregate in which the given flexible volume resides.
disk-count		integer	Total number of associated disks (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1]
encrypt		boolean optional	Specifies whether a volume is encrypted or not.
encryption-state		integer optional	Encryption state of a volume.
encryption-type		integer optional	Specifies whether a volume is encrypted as NAE (NetApp Aggregate Encryption) volume or not.
			Expiry date of the SnapLock volume in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range: [0..2^64-1]. The flag is-wraparound indicates if this date is in the

expiry-date		integer optional	normal format or is wrapped around. This field is not included if 1. the volume has an infinite expiry-date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots.
files-private-used		integer	Number of system (not user-visible) files (inodes) used. If the volume is restricted or offline, a a value of 0 is returned. Range : [0..2^64-1].
files-total		integer	Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
files-used		integer	Number of user-visible files (inodes) used. If the volume is restricted or offline, a value 0 returned. Range : [0..2^64-1].
filesystem-size		integer	Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
formatted-expiry-date		string optional	Expiry date of the SnapLock volume in a human-readable format :: is displayed. A value of "infinite" indicates that the volume has an infinite expiry date. A value of "scan_in_progress" indicates that expiry date is not displayed since worm scan on the volume is in progress. A value of "no_expiry_date" indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM snapshots. This field is not included if the volume is offline or the volume is regular volume (is-snaplock is "false").
formatted-snaplock-volume-compliance-clock		string optional	If Compliance Clock is initialized then human readable time :: is displayed. This field will be present only for SnapLock volumes.
hybrid-cache-eligibility		string	hybrid cache eligibility. Valid values are "read","read-write" and "none". Volumes which report "read" can support only read caching. Volumes which report "read-write" support both read and write caching. "none" means no hybrid caching support.
hybrid-cache-write-caching-ineligibility-reason		string optional	informs why the volume cannot participate in write caching. This field is valid only if the volume can participate in read caching but not write caching.
inodefile-private-capacity		integer	Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1].
inodefile-public-capacity		integer	Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1].
inofile-version		integer	The inofile-version of the volume. If the volume is restricted or offline, a value of 0 returned. Range : [0..2^32-1].
is-checksum-enabled		boolean	Whether RAID checksums are enabled (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate).

is-in-snapmirror-jumpahead		boolean optional	True when the volume is in the process of SnapMirror jump ahead. Default value is false. This field is returned only for online volumes.
is-inconsistent		boolean	Whether or not there is known inconsistency in the associated file system.
is-invalid		boolean optional	Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted 'vol copy' or SnapMirror(R) initial transfer. In such a case a volume is in a half created state and cannot be recovered. By default, this field is FALSE.
is-snaplock		boolean	Whether or not this is a SnapLock volume.
is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-space-slo-enabled		boolean optional	**Flexible** volumes only. Whether or not the space SLO type associated with the flexible volume is in effect. Possible values: enabled and disabled. This field does not appear if the flexible volume is restricted or offline.
is-unrecoverable		boolean optional	Whether or not there is known inconsistency in the associated file system and it is not recoverable. This value is only present for flexible volumes. By default, this field is FALSE.
is-wraparound		boolean optional	True if the date represented in expiry-date is a wrap around date. SnapLock wraps around the expiry date to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if 1. the volume has an infinite expiry date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume (is-snaplock is "false") 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots.
key-id		string optional	If the volume is encrypted, key associated with this key-id is used for encrypting the volume.
logical-used-percent		integer	This field represents the percentage of logical used size in the volume. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^32-1].
mirror-status		string	The RAID mirror status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: CP count check in progress, failed, invalid, limbo, mirror degraded, mirror resynchronizing, mirrored, needs CP count check, uninitialized, <unknown mirror state>, and unmirrored.
name		string	Name of the volume.
owning-vfiler		string optional	Name of the vfiler which owns this volume. This value will be returned only if the request is coming to vfiler0 and MultiStore is licensed.

percentage-used		integer optional	Percentage of the volume size that is used. If the volume is restricted or offline, a value of 0 is returned. Range : [0..100].
plex-count		integer	Number of plexes (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). This is also the size of the "plex" array that appears below. A plex is composed of one or more RAID groups that have been lashed together to serve as the unit for RAID mirroring. Range : [0..2^31-1]
plexes		plex-info[]	List of plexes for this volume (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate).
quota-init		integer	Quota state and percent initialized. 100% means that quotas are on, 0% means quotas are off, and anywhere inbetween means that quotas are initializing. Range : [0..100].
raid-size		integer	The current RAID group size (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1].
raid-status		string	The current RAID status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: copying, degraded, foreign, growing, initializing, invalid, ironing, mirror degraded, mirrored, needs check, noparity, normal, out-of-date, partial, raid0, raid4, raid_dp, raid_tec, reconstruct, resyncing, snapmirrored, verifying, unrecoverable. This field can contain a combination of the above status values in a comma separated list; for example: "reconstruct,growing".
remote-location		string optional	Displays the remote host and remote volume where the origin of the cache is located. Returned in format: : Present only if flex volume is a FlexCache. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name.
reserve		integer	Number of bytes reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to reserve-required if the value of the fractional_reserve option is set to the default value of 100%, but otherwise may be less than reserve-required. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]
reserve-required		integer	The number of reserved bytes that are required to ensure that the reserved space is sufficient to allow all space reserved files and LUNs to be overwritten when the volume is full. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
reserve-used		integer	Number of reserved bytes that is not available for new overwrites. The number includes both reserved bytes which have actually been used for overwrites as well as bytes which were never allocated in the first place. On a volume without free space, the "never allocated" component can become non-zero when reserve-required increases as holes are filled in. Because of this, the reserve-used value can exceed the number of snapshotted bytes. The reserve-used value can also exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
reserve-used-			Number of reserved bytes that have been used. This value is computed as the smaller of: (1) snapshotted bytes not in the active filesystem, and (2) reserve-used. This formula comes from the observation that you cannot have used more overwrite

actual		integer	reserved than have actually overwritten data. This value can exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
sis		sis-info optional	Display the Single Instance Storage (SIS) related status and statistics if the volume is a SIS volume.
size-available		integer	Number of bytes still available in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
size-expected-available		integer	Number of bytes that should be available in the volume irrespective of available in the aggregate for a thin provisioned volume. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volumes's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1].
size-logical-available		integer	Number of bytes that are logically available in the volume i.e. amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-logical-used		integer	Number of bytes logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-logical-used-by-afs		integer	Number of bytes that are logically used by the active filesystem of the volume. This value differs from 'size-logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported of FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-logical-used-by-snapshots		integer	Number of bytes that are logically used across all Snapshots copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-over-provisioned		integer	Number of bytes not available in the aggregate for a volume. This will be non-zero only in case of none guaranteed volume when it's unused size exceeds available space in the aggregate. For guarantee enabled volume this field will always report zero. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1].
size-physical-used		integer	The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1].
size-snapshot-reserve-available		integer	Number of bytes available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For none guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1].
size-total		integer	Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].

size-used		integer	Number of bytes used in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
snap-autodelete		snap-autodelete-info optional	Display the snapshot autodelete policy related status of the volume. Appears only under "verbose" mode.
snaplock-type		string optional	The type of the snaplock volume. It is present for snaplock volumes only, i.e. volumes for which is-snaplock is "true". Possible values - "compliance" or "enterprise"
snaplock-volume-compliance-clock		integer optional	If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. This field will be present only for SnapLock volumes. Range: [0..2^64-1].
snapshot-blocks-reserved		integer	The number of 1024 byte blocks that has been set aside as reserve for snapshot usage. This is same as "blocks-reserved" in snapshot-get-reserve API output. Range : [0..2^64-1].
snapshot-percent-reserved		integer	The percentage of disk space that has been set aside as reserve for snapshot usage. This is same as "percent-reserved" in snapshot-get-reserve API output. Range : [0..100].
space-reserve		string optional	**Flexible** volumes only. The storage guarantee associated with the flexible volume. Possible values: none, file, volume. This field does not appear if the flexible volume is restricted or offline.
space-reserve-enabled		boolean optional	**Flexible** volumes only. Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field does not appear if the flexible volume is restricted or offline.
space-slo		string optional	**Flexible** volumes only. The space SLO type associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. Possible values: none, thick, semi-thick. This field does not appear if the flexible volume is restricted or offline.
state		string	State of the volume. Possible values: "offline", "online", "restricted" and "unknown" for both flexible and traditional volumes, and "creating", "failed", and "partial" specifically for traditional volumes. The "mixed" state applies to both FlexGroups and Infinite Volumes. If the state of a FlexGroup or Infinite Volume is mixed, that indicates that not all of the constituents are in the same state.
transition		transition-info optional	Information relating to any transition jobs running or previously run on this volume.
type		string	The type of volume. Possible values: "flex" for flexible volumes, and "trad" for traditional volumes.
uuid		string	Universal unique identifier (UUID) for the volume.
vm-align		vm-align-info optional	Information related to the Virtual Machine alignment settings on the volume.
volume-64bit-upgrade		volume-64bit-upgrade-info optional	Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available.

Element definition: **volume-modify-iter-async-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".
volume-key		volume-attributes	The keys for the volume object to which the modify operation applies.

Element definition: **volume-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
volume-key		volume-attributes	The keys for the volume object to which the modify operation applies.

Element definition: **volume-move-error-code**

[top]

The complete list of error codes if perform-validation-only is true.

Name	Range	Type	Description
volume-move-error		integer	Error

Element definition: **volume-move-info**

[top]

Status of the move operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

actual-completion-timestamp	**[0..2^31-1]**	integer optional	The date and time in cluster timezone when the volume move completed (successfully or otherwise). If the volume move operation completed successfully, this is the time when the volume on the destination aggregate has been made master and the original volume on the source aggregate has been deleted or is no longer a master copy. Attributes: non-creatable, non-modifiable
actual-duration	**[0..2^32-1]**	integer optional	The duration in days, hours, minutes and seconds for which the volume move was or is in progress. Attributes: non-creatable, non-modifiable
bypass-throttling		boolean optional	This specifies whether this move should be throttled so protocol operations latencies are not affected by move. If this parameter is specified with true, the move will not be throttled by the transfer engine. The default is false. Attributes: non-creatable, modifiable
bytes-remaining	**[0..2^63-1]**	integer optional	The number of bytes remaining to be sent during volume move. This is an approximate number and lags the current status by a few (3) minutes while the volume move is in operation. The bytes-remaining is applicable only for ongoing volume moves. It is not applicable to completed or failed moves. The data inside the volume is considered to be much much larger than data outside the volume. This value most of the time will track data inside the volume yet to be sent. Note that the bytes-remaining can increase over a period of time depending on the rate of change of volume by protocols or other consumers of the volume. Attributes: non-creatable, non-modifiable
bytes-sent	**[0..2^63-1]**	integer optional	The number of bytes sent thus far as part of volume move. This is an approximate number and lags the current status by a few seconds while the volume move is in operation. The bytes-sent is applicable only for ongoing and successful volume moves. The bytes-sent counter is mononotonically increasing in most cases. It is stored in memory. As a result, any reboots or failover of the move operation can lead to resetting of this counter to a lesser value than reported earlier. The data inside the volume is considered to be much much larger than metadata of the volume, mostly stored outside the volume. This value most of the time will track data inside the volume sent at the time of retreiving status. Attributes: non-creatable, non-modifiable
completion-code	**[0..2^64-1]**	integer optional	The status code of the move operation. The status code will be 0 while the job is running or is successful. It will be non-zero if it is not successful. The code field will be the same as job show's 'status job' field. This field will be in diag mode of the UI. Attributes: non-creatable, non-modifiable
completion-status		string optional	Once a volume move is complete, the final state of the volume move operation. This is available in diag mode only. Attributes: non-creatable, non-modifiable
cutover-action		string optional	The action to be taken for cutover or during cutover failure. Can be one of abort_on_failure, defer_on_failure, force or wait. This is the input given during the start of volume move. Attributes: non-creatable, modifiable

cutover-attempted-count	**[0..2^32-1]**	integer optional	Number of times cutover has been attempted during the move operation. This is a diag only field. Attributes: non-creatable, non-modifiable
cutover-attempts	**[1..25]**	integer optional	The number of attempts to be used by the move operation to cutover to the destination volume. This is the input by the upper layers. If the number of attempts is exhausted, the cutover-action input determines the next course of action for the move operation. Attributes: non-creatable, modifiable
cutover-hard-deferred-count	**[0..2^32-1]**	integer optional	Number of times cutover has been hard deferred during the move operation due to non-transient, intervention-necessary conditions. This is a diag only field. Attributes: non-creatable, non-modifiable
cutover-trigger-timestamp	**[0..2^31-1]**	integer optional	The time when move operation last accepted a trigger to initiate cutover. This is applicable when the move operation is waiting for a cutover to be triggered because of a hard cutover deferred state or because the cutover-action was wait. Attributes: non-creatable, non-modifiable
cutover-window	**[30..300]**	integer optional	The time window in seconds given as input for the cutover phase of volume move. Attributes: non-creatable, modifiable
cutovers-soft-deferred-count	**[0..2^32-1]**	integer optional	Number of times cutover has been soft deferred during the move operation due to transient conditions. This is a diag only field. Attributes: non-creatable, non-modifiable
destination-aggregate		string optional	The name of the aggregate where the volume is being moved to. Attributes: non-creatable, non-modifiable
destination-key-id		string optional	This is the encryption key-id of the destination volume. Attributes: non-creatable, non-modifiable
destination-node		string optional	The name of the node where the destination aggregate is. This will be a diagnostic only field. Attributes: non-creatable, non-modifiable
details		string optional	This field contains details about any warnings, errors and state of the move operation. This is a string field. Attributes: non-creatable, non-modifiable
enforce-network-throttling		boolean optional	This specifies whether this move should enforce replication engine node level network throttling. If this parameter is specified with true, the move will be throttled by the replication engine. The default is false. Attributes: non-creatable, modifiable
estimated-completion-time	**[0..2^31-1]**	integer optional	The approximate date and time in the cluster time zone when the entire volume move operation is expected to complete. The move operation completes when the volume instance on the destination aggregate has become the master copy and the volume instance on the source aggregate has been deleted or is no longer the master copy. The format will be in Ontap's Date format. Note that this time may keep increasing when the move goes into Cutover-Deferrred mode. In those cases where the input for cutover-action is wait, during data copy phase, estimated time of completion will

			approximate the time to reach cutover point and wait for user intervention. Attributes: non-creatable, non-modifiable
estimated-remaining-duration	**[0..2^32-1]**	integer optional	The approximate amount of time in terms of days, hours, minutes and seconds remaining to complete the volume move. Note that this duration will not go down to zero when the move goes into Cutover-Deferrred mode. The duration displayed in the examples is not correct. cutover. Attributes: non-creatable, non-modifiable
execution-progress		string optional	The execution progress of the job as reported by the job. This is used for debugging purposes only and is only available in diag mode. Attributes: non-creatable, non-modifiable
internal-state		string optional	This is the actual internal state of the move job. This is used for debugging purposes only and is only available in diag mode. Attributes: non-creatable, non-modifiable
is-destination-encrypted		boolean optional	This value is 'true' if the destination volume is an encrypted volume. Attributes: non-creatable, non-modifiable
is-source-encrypted		boolean optional	This value will be 'true' if the source volume is an encrypted volume. Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	The ui job id of the move job. This is available in diag mode only. Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	The job uuid of the move job. This is available in diag mode only. Attributes: non-creatable, non-modifiable
last-cutover-trigger-timestamp	**[0..2^31-1]**	integer optional	The time when move operation initiated cutover. Attributes: non-creatable, non-modifiable
managing-node		string optional	The node in the cluster on which the move operation/job is or was running. This is usually on the node hosting the volume to be moved. Attributes: non-creatable, non-modifiable
moved-by-autobalance		boolean optional	This value will be 'true' if the move has been initiated by Auto Balance aggregate and 'false' if the move is not related to Auto Balance Aggregate. Attributes: non-creatable, non-modifiable
original-job-id	**[0..2^64-1]**	integer optional	This field will be populated when the move job is restarted with a new Job identifier. Attributes: non-creatable, non-modifiable
percent-complete	**[0..100]**	integer optional	The amount of work to move the volume completed thus far in terms of percentage. Attributes: non-creatable, non-modifiable
			The phase of the move operation. The move operation can have the following phases: • Queued - Phase where the move operation is queued for execution by the cluster.

phase		string optional	Initializing - Phase where the move operation is setting up resources and initializing them for moving the volume. • Replicating - Phase in which move operation is doing data copy from source volume to destination aggregate. • Cutover - Phase in which the move operation is attempting to switch over volume to the destination aggregate and ensuring client i/o and system operations go to the volume on the destination aggregate. In this phase client i/o and system operations are temporarily suspended while a final data copy is taking place from the current volume to the destination aggregate. • cutover_hard_deferred - Phase in which the move operation is deferring cutover due to some errors in the system during move. The move operation is waiting for corrective action from the admin or MEI tools to take place. The details field contains the reason for the error. • cutover_soft_deferred - Phase in which the move operation is deferring cutover due to some transient errors in the system during move. The move operation is replicating in the background and waiting for the transient error which is causing the soft deferral to clear up. If the move operation has not yet started the replication in the background, the 'Detailed Status' field will contain the reason for soft deferral. • Completed - The move operation has completed successfully and the volume is now on destination aggregate. • Finishing - The move operation performs a cleaning up before completing succesfully and the volume is now on destination aggregate. • cleaning_up - The move operation aborted and is in the process of cleaning up. This is a transient condition that will eventually lead to Failed phase. • Failed - The move operation was not successful. The details field and the code indicates the reason for the failure. • Failed - The move operation did not complete successfully. • Restarting - The move operation is restarting. Attributes: non-creatable, non-modifiable
prior-issues		string optional	The list of issues or transient errors encountered causing the move operation to retry the data copy phase or the cutover phase. For RR.1, there will be only one transient error reported. For later releases, there can be many transient errors seperated by newlines reported, with the order being earliest at top and latest error at the bottom of the list. This is a diag only field. Attributes: non-creatable, non-modifiable
replication-throughput		string optional	The current replication throughput of the move operation in terms of Kb/s, Mb/s or Gb/s. Attributes: non-creatable, non-modifiable
skip-delta-calculation		boolean optional	Indicates that the move should skip delta calculation. Attributes: non-creatable, non-modifiable
source-aggregate		string optional	The name of the aggregate where the volume being moved originally resides or resided. Attributes: non-creatable, non-modifiable
source-key-id		string optional	This is the encryption key-id of the source volume. Attributes: non-creatable, non-modifiable

source-node		string optional	The name of the node where the source aggregate is. Attributes: non-creatable, non-modifiable
start-timestamp	**[0..2^31-1]**	integer optional	The date and time in cluster timezone when the volume move started. Attributes: non-creatable, non-modifiable
state		string optional	The state of the volume move at the time of issuing the command and the system gathering up the information about the move. The states can have the following values: • Healthy - Volume move is proceeding as planned, with no issues so far • Done - Volume move has finished successfully. • Failed - Volume move has failed due to some reason, with the reason being available in the Detailed Status section. • Warning - Volume move has encountered a transient error condition during its operation, but is continuing on since then. The details and phase section has more context into the cause of the error. • Alert - Volume move has encountered a serious condition that cannot be rectified by the system alone and needs input from the upper layers (admin or tools) before proceeding. The volume move will go into Cutover-Deferred phase waiting for user intervention in case of errors, with volume move trigger-cutover being the way the move operation can be restarted. Attributes: non-creatable, non-modifiable
volume		volume-name optional	This is the name of the vserver-scoped volume being moved. Attributes: key, non-creatable, non-modifiable
volume-instance-uuid		uuid optional	This is the instance uuid of the vserver-scoped volume being moved. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	This is the name of the vserver in which the volume being moved is part of. Attributes: key, non-creatable, non-modifiable

Element definition: **volume-move-target-aggr-info**

[top]

Compatible target aggregate information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-name		aggr-name	Aggregate Name Attributes: key, non-creatable, non-modifiable

		optional	
available-size		size optional	Available size Attributes: non-creatable, non-modifiable
current-dest-capacity-tier-usage		size optional	Current Destination Capacity Tier Usage Attributes: non-creatable, non-modifiable
current-dest-performance-tier-availsize		size optional	Current Destination Performance Tier Available Size Attributes: non-creatable, non-modifiable
current-source-capacity-tier-usage		size optional	Current Source Capacity Tier Usage Attributes: non-creatable, non-modifiable
current-source-performance-tier-availsize		size optional	Current Source Performance Tier Available Size Attributes: non-creatable, non-modifiable
projected-dest-capacity-tier-usage		size optional	Projected Destination Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable
projected-dest-performance-tier-availsize		size optional	Projected Destination Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable
projected-source-capacity-tier-usage		size optional	Projected Source Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable
projected-source-performance-tier-availsize		size optional	Projected Source Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable
storage-type		string optional	Storage Type Attributes: non-creatable, non-modifiable

Element definition: **volume-option-info**

[top]

Option key and value.

Name	Range	Type	Description
name		string	Option key.
value		string	Option value.

Element definition: **volume-transition-volinfo**

[top]

Information describing the volume and how to transition it.

Name	Range	Type	Description
junction-path		string optional	The path in the vserver into which the volume should be mounted. Note that this is only valid for transitions from 7-mode to Cluster-mode and not untransition. Path should be of the format "/".
volume-name		string	The name of the volume which is to be transitioned.

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **autosize-info**

[top]

Autosize settings of the volume This appears only if the "verbose" parameter above is set to "true".

Name	Range	Type	Description
grow-threshold-percent	**[0..100]**	integer optional	The trigger capacity percentage at which the volume automatically grows.
increment-size	**[0..2^63-1]**	integer optional	The increment size by which the volume would be grown, in kbytes.
is-enabled		boolean optional	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. The value of 'true' means that autosize is enabled, while 'false' means that the autosize mode is 'off'.
maximum-size	**[0..2^63-1]**	integer optional	The maximum size to which the volume would be grown automatically, in kbytes.
minimum-size	**[0..2^63-1]**	integer optional	The minimim size to which the volume can be shrunk automatically, in kbytes.
mode		string optional	Defines the current mode of volume autosize. Legal modes include "grow", "grow_shrink", and "off".
shrink-threshold-percent	**[0..100]**	integer optional	The trigger capacity percentage at which the volume automatically shrinks.

Element definition: **clone-child-info**

[top]

Information describing each of the clones that are children of the current flexible volume.

Name	Range	Type	Description
clone-child-name		string	The name of a clone volume whose parent is the given flexible volume.

Element definition: **clone-parent-info**

[top]

Information describing the parentage of a flexible volume clone.

Name	Range	Type	Description
parent-snapshot-name		string	The name of the snapshot in 'parent-volume-name' serving as the parent of this clone.

parent-volume-name		string	The name of the flexible volume serving as the parent of this clone.

Element definition: **compression-info**

[top]

Note that the use of this element is deprecated, refer to the 'dense-status' element for compression status instead.

Name	Range	Type	Description
is-compression-enabled		string	Note that the use of this field is deprecated, refer to the 'is-compression-enabled' field in the 'dense-status' element instead.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

Element definition: **plex-info**

[top]

Information for a plex.

Name	Range	Type	Description
is-online		boolean	"true" if the plex is online, "false" otherwise.
is-resyncing		boolean	"true" if the plex is currently resyncing, "false" otherwise.
name		string	Plex name, e.g. /myvol/plex0
plex-			

resync-pct-with-precision		string optional	If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12")
plex-status		string optional	Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active")
pool	**[0..1]**	integer optional	The pool to which the majority of disks in the plex belong.
raid-groups		raid-group-info[] optional	List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true".
resync-level	**[0..1]**	integer optional	If the plex is currently being resynced, then the resync level.
resyncing-percentage		integer optional	If the plex is currently being resynced, then the completion percentage. Range : [0..100].

Element definition: **sis-info**

[top]

Status and statistics for the SIS volume.

Name	Range	Type	Description
compress-saved		integer	The total disk space saved due to compression in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1]
dedup-saved		integer	The total disk space saved due to deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1]
last-operation-begin		string	Start timestamp of the last SIS operation.
last-operation-end		string	End timestamp of the last SIS operation.
last-operation-error		string	A human readable error message of the last SIS operation. Present when there was an error.
last-operation-size		integer	The size in bytes of the last SIS operation. Range : [0..2^64-1].
percent-compress-saved		integer	The percentage of disk space saved by compression on the referenced file system. Range: [0 - 100]
percent-dedup-saved		integer	The percentage of disk space saved by deduplication on the referenced file system. Range: [0 - 100]
percent-total-saved		integer	The percentage of disk space saved by compression & deduplication on the referenced file system. Range: [0 - 100]
percentage-saved		integer	Percentage of space savings generated by the shared space. This is calculated as [size-saved / (size-saved + size-used)]. This field appears if the SIS volume is online. Range : [0..100].
progress		string	The progress of the current SIS operation.
			The schedule for SIS operation on the volume. See sis-set-config for the

schedule		string	format of the schedule.
size-saved		integer	The disk space savings generated by the shared space. The size is in bytes. The size-saved plus the size-used would be the total space usage, if no space is shared. This field appears if the SIS volume is online. Range : [0..2^64-1].
size-shared		integer	Number of bytes in the used space that is shared. This field appears if this SIS volume is online. Range : [0..2^64-1].
state		string	Possible values: "enabled", or "disabled".
status		string	Possible values: "idle", "active", "pending", or "undoing".
total-saved		integer	The total disk space saved by compression & deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1]
type		string	Possible values: "regular" or "snapvault".

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snap-autodelete-info**

[top]

Snapshot autodelete policy settings. This appears only if the "verbose" parameter above is set to "true".

Name	Range	Type	Description
commitment		string	Possible values: "try", "disrupt", or "destroy". This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume and LUN clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume and LUN clones) to be deleted.
defer-delete		string	Possible values "scheduled", "user_created", "prefix", or "none". This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices.
delete-order		string	Possible values "oldest_first", "newest_first". This option determines if the oldest or newest snapshot is deleted first.
destroy-list		string	Possible values are the combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". These options specify the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to destroy.
prefix		string	This option provides the prefix string for the "prefix" value of the "defer_delete" option.
			Possible values: "on" or "off". This option determines if the snapshot

state		string	autodelete is currently enabled for the volume.
target-free-space		integer	This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage. Range: [1..100]
trigger		string	Possible values: "volume", "snap_reserve", or "(DEPRECATED)-space_reserve". This option determines the condition in which snapshots should be automatically deleted. Setting this option to "volume" triggers snapshot autodelete to run when the volume is near full. Setting this option to "snap_reseve" triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to "space_reserve" triggers snapshot autodelete to run when the space reserved in the volume is near full. NOTE: The option "space_reserve" is deprecated.

Element definition: **transition-info**

[top]

Information relating to any transition jobs running or previously run on this volume.

Name	Range	Type	Description
transition-state		string optional	Indicates the current state of the volume transition operation.
transitioned		boolean optional	Indicates whether the volume has gone through a transition operation.

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vm-align-info**

[top]

Information relating to Virtual Machine alignment settings on the volume.

Name	Range	Type	Description
tsse-local-savings		integer	The auto adaptive compression local savings. Range : [0..2^64-1].
tsse-migrate-savings		integer	The auto adaptive compression migrate savings. Range : [0..2^64-1].

vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this.

Element definition: **volume-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

Name	Range	Type	Description
check		volume-64bit-upgrade-check-info optional	Information returned when upgrade-64bit-mode in aggr-add is "check".

Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

Name	Range	Type	Description
on-access-policy		string optional	{Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'. If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces. Attributes: optional-for-create, modifiable

Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
encrypt		boolean optional	To create an encrypted Volume. This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted. Attributes: optional-for-create, non-modifiable
encryption-state		string optional	The encryption state of a volume. Possible values: • 'none' ... plain-text volume, • 'full' ... encrypted volume, • 'partial' ... volume are in mixed encryption state(valid for FlexGroup only), • 'converting_to_encrypted' ... conversion to encryption operation is in progress, • 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated), • 'rekeying' ... rekey of volume is in progress Attributes: non-creatable, non-modifiable
encryption-type		encryptiontype optional	Encryption type of a volume. Possible values: • 'none' ... plain-text volume, • 'volume' ... NVE (NetApp Volume Encryption) volume, • 'aggregate' ... NAE (NetApp Aggregate Encryption) volume Attributes: optional-for-create, non-modifiable Possible values: • "undefined" - Not defined, • "none" - Plain-text volume, • "volume" - NVE (NetApp Volume Encryption) volume, • "aggregate" - NAE (NetApp Aggregate Encryption) volume, • "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)
key-creation-time		string optional	The creation date and time of the key-id. The creation date and time of current key-id of the volume. Attributes: non-creatable, non-modifiable
key-id		string optional	The key-id used for creating encrypted volume. A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key. Attributes: non-creatable, non-modifiable
volume-antivirus-attributes		volume-antivirus-attributes optional	This field contains information about Antivirus On-Access settings for the volume.
volume-autobalance-attributes		volume-autobalance-attributes	This field contains information about the state of Auto Balance Aggregate for a volume.

		optional	
volume-autosize-attributes		volume-autosize-attributes optional	This field contains information about the autosize settings of the volume.
volume-clone-attributes		volume-clone-attributes optional	This field contains information applying exclusively to clone volumes.
volume-comp-aggr-attributes		volume-comp-aggr-attributes optional	This field contains information about composite aggregate attributes of a volume.
volume-directory-attributes		volume-directory-attributes optional	This field contains information related to directories in a volume.
volume-export-attributes		volume-export-attributes optional	This field contains information about export settings of the volume.
volume-flexcache-attributes		volume-flexcache-attributes optional	This field contains information applying exclusively to flexcache volumes.
volume-hybrid-cache-attributes		volume-hybrid-cache-attributes optional	This field contains information on Flash Pool caching attributes on a volume
volume-id-attributes		volume-id-attributes optional	This field contains identification information about the volume.
volume-infinitevol-attributes		volume-infinitevol-attributes optional	This field contains information about the state of an Infinite Volume.
volume-inode-attributes		volume-inode-attributes optional	This field contains information about inodes in a volume.
volume-language-attributes		volume-language-attributes optional	This field contains information about volume language-related settings.
volume-mirror-attributes		volume-mirror-attributes optional	This field contains information applying exclusive to volume mirror.
volume-performance-attributes		volume-performance-attributes optional	This field contains information that relates to the performance of the volume.
volume-qos-attributes		volume-qos-attributes optional	This field contains the information that relates to QoS.
volume-security-attributes		volume-security-attributes optional	This field contains information about volume security settings.

volume-sis-attributes		volume-sis-attributes optional	This field contains information about Deduplication, file clone, compression, etc.
volume-snaplock-attributes		volume-snaplock-attributes optional	This field contains information about snaplock attributes of the volume.
volume-snapshot-attributes		volume-snapshot-attributes optional	This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded.
volume-snapshot-autodelete-attributes		volume-snapshot-autodelete-attributes optional	This field contains information about snapshot autodelete policy settings.
volume-space-attributes		volume-space-attributes optional	This field contains information related to volume disk space management including on-disk layout.
volume-state-attributes		volume-state-attributes optional	This field contains information about the state or status of a volume or its features.
volume-transition-attributes		volume-transition-attributes optional	This field contains information applying exclusively to transitioned or transitioning volumes.
volume-vm-align-attributes		volume-vm-align-attributes optional	This field contains information related to the Virtual Machine alignment settings on a volume
volume-vserver-dr-protection-attributes		volume-vserver-dr-protection-attributes optional	This fields contains information about protection type for the volume in a Vserver DR setup.

Element definition: **volume-autobalance-attributes**

[top]

Information about the Auto Balance Aggregate state of a volume.

Name	Range	Type	Description
is-autobalance-eligible		boolean optional	When set to 'true', the volume is included in Auto Balance aggregate processing. When set to 'false', the volume is excluded from Auto Balance aggregate processing. This field is not set on FlexGroups. Attributes: optional-for-create, modifiable

Element definition: **volume-autosize-attributes**

[top]

Information about autosize settings of the volume.

Name	Range	Type	Description
grow-threshold-percent	**[0..100]**	integer optional	Used space threshold which triggers autogrow. When the volume-info.size-used is greater than this percent of volume-info.size-total, the volume will be grown. The computed value is rounded down. The default value of this element varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Attributes: optional-for-create, modifiable
is-enabled		boolean optional	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'. Attributes: optional-for-create, modifiable
maximum-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which the volume would be grown automatically. The default value is 20% greater than the volume size. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size. Attributes: optional-for-create, modifiable
minimum-size	**[0..2^63-1]**	integer optional	The minimum size (in bytes) below which the volume would not be shrunk automatically. The default value is the initial size of the volume. It is an error for the minimum size to be greater than or equal to the maximum size. Attributes: optional-for-create, modifiable
mode		string optional	The current mode of operation of volume autosize. Valid modes are 'off', 'grow', and 'grow_shrink'. The default mode is 'off'. Attributes: optional-for-create, modifiable Possible values: • "off" , • "grow" , • "grow_shrink"
reset		boolean optional	Resets the values of autosize, max-autosize, min-autosize, autosize-shrink-threshold-percent, autosize-grow-threshold-percent and autosize-mode to their defaults. Attributes: non-creatable, modifiable
shrink-threshold-percent	**[0..100]**	integer optional	The used space threshold below which autoshrink is triggered. When the volume-info.size-used is less than this percent of volume-info.size-total, the volume will be shrunk. The computed value is rounded down. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Attributes: optional-for-create, modifiable

Element definition: **volume-clone-attributes**

[top]

Information about volume clones.

Name	Range	Type	Description
clone-child-count	**[0..2^32-1]**	integer optional	Number of clones for which this volume is the parent. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
inherited-physical-used		size optional	Inherited Physical Used from Clone's Base Snapshot. Attributes: non-creatable, non-modifiable
inherited-savings		size optional	Inherited Savings from Clone's Base Snapshot. Attributes: non-creatable, non-modifiable
volume-clone-parent-attributes		volume-clone-parent-attributes optional	This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage. This field is not set on FlexGroups.

Element definition: **volume-comp-aggr-attributes**

[top]

Information related to composite aggregate attributes of a volume.

Name	Range	Type	Description
aggressive-readahead-mode		string optional	This optional parameter specifies the volumes aggressive readahead mode. The available are: • none - No aggressive readahead. • file_prefetch - The file being read is prefetched. Attributes: optional-for-create, modifiable
cloud-retrieval-policy		string optional	This optional parameter specifies the cloud retrieval policy for the volume.This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are: • default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. • on-read - This policy retrieves tiered data for all client driven data reads. • never - This policy never retrieves tiered data. • promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved. Attributes: optional-for-create, modifiable
			This optional parameter specifies whether the volume is in cloud write

is-cloud-write-enabled		boolean optional	mode. This parameter is only supported if the volume is in an aggregate that is attached to an object store and the volume has ALL or ARCHIVE tiering policy set. Attributes: non-creatable, modifiable
needs-object-retagging		boolean optional	Does the object tagging scanner need to run on this volume. This parameter is only supported if the volume is in an aggregate that is attached to an object store. Attributes: non-creatable, non-modifiable
tiering-minimum-cooling-days	**[2..183]**	integer optional	The minimum number of cooling days for user data. This field specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. The value specified should be greater than the frequency that applications in the volume shift between different sets of data. Valid values are between 2 and 183. Attributes: optional-for-create, modifiable
tiering-object-tags		string[] optional	Tags to be associated with objects stored on a fabricpool. Attributes: optional-for-create, modifiable
tiering-policy		string optional	The tiering policy associated with this volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier when they become cold. The possible values for this field are: • 'snapshot-only' - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • 'none' - Volume blocks will not be tiered to the capacity tier. • 'backup' - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is 'snapshot-only' for flexible volumes and 'none' for FlexGroups. Attributes: optional-for-create, modifiable
tiering-storage-class		string optional	This optional parameter specifies the storage class that is attached with the FabricPool. This parameter is only supported if the volume is in an aggregate that is attached to an object store. Attributes: non-creatable, modifiable

Element definition: **volume-directory-attributes**

[top]

Information related to directories in the volume.

Name	Range	Type	Description

i2p-enabled		boolean optional	If true, native inode-to-parent information is kept for inodes. By default, this field is true. Attributes: non-creatable, non-modifiable
max-dir-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which any directory in this volume can grow. The default maximum directory size is set to 1% of the system memory. So if the system memory is 1GB, then the maximum directory size value will be 10MB which allows upto 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create. Attributes: optional-for-create, modifiable
root-dir-gen		string optional	This field contains the generation number of the root directory. Attributes: non-creatable, non-modifiable

Element definition: **volume-export-attributes**

[top]

Information about export settings of the volume.

Name	Range	Type	Description
policy		string optional	The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'. FlexGroups do not support policies that allow NFSv4 protocol access. Attributes: optional-for-create, modifiable

Element definition: **volume-flexcache-attributes**

[top]

Information about FlexCache volumes.

Name	Range	Type	Description
cache-policy		cache-policy optional	The name of the cache policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. Attributes: optional-for-create, modifiable
			The name of the fill policy. The default policy name is 'default'.

fill-policy		cache-policy optional	This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. Attributes: optional-for-create, modifiable
min-reserve		size optional	The amount of space requested to be preallocated in the aggregate hosting the FlexCache volume. Attributes: optional-for-create, modifiable
origin		volume-name optional	The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same vserver that owns this volume. Attributes: optional-for-create, non-modifiable

Element definition: **volume-hybrid-cache-attributes**

[top]

Information about the Flash Pool caching attributes of a volume.

Name	Range	Type	Description
cache-retention-priority		string optional	The cache retention priority policy associated with this volume. The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are: • low - Cache the cold blocks for the lowest time. • normal - Cache the cold blocks for the default time. • high - Cache the cold blocks for the highest time. Default cache retention priority is normal. Attributes: optional-for-create, modifiable
caching-policy		string optional	The caching policy associated with this volume. The caching policy that is to be associated with the volume. The policy decides how the flash pool caching has to happen for the volume. The possible values for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. • noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.

			• meta-random_write - Same as meta and noread-random_write. • random_read_write-random_write - Same as random_read_write and noread-random_write. • all_read-random_write - Same as all_read and noread-random_write. • all_read_random_write-random_write - Same as all_read_random_write and noread-random_write. • all-random_write - Same as all and noread-random_write. Note that in a caching-policy name, a hyphen (-) separates read and write policies. Default caching-policy is auto. Attributes: optional-for-create, modifiable
eligibility		string optional	Flash Pool caching eligibility of a volume Possible values: • 'read' ... Indicates that the volume cannot participate in write caching, • 'read-write' ... Indicates that the volume can participate in read and write caching, Attributes: non-creatable, non-modifiable
write-cache-ineligibility-reason		string optional	If the volume cannot participate in write caching, then this field explains the reason. Attributes: non-creatable, non-modifiable

Element definition: **volume-id-attributes**

[top]

Identification information about a volume.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. This field is returned only if it is explicitly requested using desired-attributes. This parameter is only supported on FlexGroups. Attributes: optional-for-create, non-modifiable
application		string optional	The application with which the Volume is associated. Attributes: non-creatable, non-modifiable
application-uuid		uuid optional	The unique identifier of the volume's application. Attributes: non-creatable, non-modifiable
comment		string optional	A description for the volume. Range:[0..1023] Attributes: optional-for-create, modifiable
containing-aggregate-name		string optional	The name of the aggregate in which the given flexible volume resides. This field is not set on FlexGroups.

			Attributes: optional-for-create, non-modifiable
containing-aggregate-uuid		uuid optional	The 128-bit universally-unique identifier of the aggregate in which the given volume resides. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
creation-time	**[0..2^31-1]**	integer optional	Creation time of the volume in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
dsid	**[0..2^64-1]**	integer optional	The volume's Data Set ID. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
extent-size		string optional	Default extent size of a volume. Possible values: • '4K' 4K, • '8K' 8K • '16K' 16K • '32K' 32K Attributes: optional-for-create, modifiable
flexcache-endpoint-type		string optional	The FlexCache endpoint type of the volume. Volumes that are not part of a FlexCache realtionship will have the 'none' type. FlexCache origin volumes have the 'none' type however, this may change in a future release. type in a future release. FlexCache cache volumes have the 'cache' type. Possible values: • 'undefined' Undefined, • 'none' None • 'cache' Cache Attributes: non-creatable, non-modifiable
flexgroup-index	**[0..2^32-1]**	integer optional	The index of the constituent within its FlexGroup. Attributes: non-creatable, modifiable
flexgroup-msid	**[0..2^64-1]**	integer optional	The Mirror Set ID of a FlexGroup or a constituent's FlexGroup. Attributes: non-creatable, non-modifiable
flexgroup-uuid		uuid optional	Universal unique identifier (UUID) for the constituent's FlexGroup or the FlexGroup itself. This value only applies to FlexGroups and FlexGroup constituents. Attributes: non-creatable, non-modifiable
fsid		string optional	The File System Identifier (FSID) value that serves as one of this volume's internal indicies. This field is not set on FlexGroups. This value serves as an internal index for a volume. All volumes on a given controller must have unique FSIDs, except for the two special values described below: A value of 0 indicates that this volume does not currently have a legal FSID for some unexpected reason. Such volumes are forcibly kept offline until this attribute is assigned a legal value. A value of 1 indicates that this volume has recently appeared on its current controller due to having its aggregate be copied from a different controller. All volumes in this newly-created aggregate

			must be assigned legal, controller-unique IDs when they are onlined. That will be handled automatically by WAFL upon mount. If modifiable, this field may be set only when the volume is restricted. It may be set to any value that is not currently being used by any other volume on the same controller. If a request to set this value to '0' is received, the system will select a new value that is currently unused. Note that setting a volume's FSID sometimes has external effects. In particular, a 7-Mode volume's FSID is part of the NFS file handles constructed for its files. Attributes: non-creatable, non-modifiable
instance-uuid		uuid optional	Universal unique identifier (UUID) for the volume that remains unchanged when the volume is moved to a new location. This differs from the volume's regular UUID which changes after a move. The instance UUID can be used to identify a volume even after it is moved. This field is valid for flexible volumes only. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 Attributes: non-creatable, non-modifiable
junction-parent-name		volume-name optional	The name of the parent volume that contains the junction inode of this volume. The junction parent volume must belong to the same vserver that owns this volume. Attributes: non-creatable, non-modifiable
junction-path		junction-path optional	The Junction Path at which this volume is mounted. This field is valid only for a Cluster-Mode volume. Attributes: optional-for-create, non-modifiable
msid	**[0..2^64-1]**	integer optional	The volume's Mirror Set ID. This field is valid only for a Cluster-Mode volume. Attributes: non-creatable, non-modifiable
name		volume-name optional	The name of the volume. Attributes: key, required-for-create, non-modifiable
name-ordinal		string optional	The ordinal assignment used in relation to this volume's name. This field is not set on FlexGroups. Ordinals are used to disambiguate volumes that have the same base name on the same controller. A value of zero indicates that the base volume name is unique on a controller. A value greater than zero indicates that the volume's base name is used by two or more volumes on the same controller, and that appending '(n)' to this volume's name uniquely identifies it on that controller. A value of -1 indicates that the name ordinal has not yet been determined.

			Attributes: non-creatable, non-modifiable
node		node-name optional	The current node name the volume is associated with. The node name can change due to a volume move. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
nodes		node-name[] optional	The array of nodes which host one or more of this FlexGroup's constituents. This field is returned only if it is explicitly requested using desired-attributes. This parameter is only supported on FlexGroups. Attributes: optional-for-create, non-modifiable
owning-vserver-name		string optional	The name of the Vserver that owns this volume. Attributes: key, non-creatable, non-modifiable
owning-vserver-uuid		uuid optional	The 128-bit universally-unique identifier for the vserver that currently owns this volume. Attributes: non-creatable, non-modifiable
provenance-uuid		uuid optional	Universal unique identifier (UUID) for the volume that is used to identify the source volume in a mirroring relationship. When the mirroring relationship is broken, a volume's Instance UUID and Provenance UUID are made identical. An unmirrored volume's Provenance UUID is the same as its Instance UUID. This field is valid for flexible volumes only. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 Attributes: non-creatable, non-modifiable
style		volstyle optional	The style of the volume. Possible values: • 'flex' ... FlexVol, • 'infinitevol' . Infinite Volume Default value is 'flex'. Attributes: non-creatable, non-modifiable Possible values: • "flex" - Flexible Volume, • "infinitevol" - Infinite Volume
style-		string	The extended style of the volume. Possible values: • 'flexvol' FlexVol, • 'infinitevol' Infinite Volume

extended		optional	• 'infinitevol-constituent' Infinite Volume constituent • 'flexgroup' FlexGroup • 'flexgroup-constituent' FlexGroup constituent Attributes: non-creatable, non-modifiable
type		string optional	The type of the volume. Possible values: • 'rw' ... read-write volume, • 'ls' ... load-sharing volume, • 'dp' ... data-protection volume, • 'dc' ... data-cache volume (FlexCache), • 'tmp' ... temporary volume (not valid for create) Default value is 'rw'. Attributes: optional-for-create, non-modifiable
uuid		uuid optional	Universal unique identifier (UUID) for this volume. Attributes: non-creatable, non-modifiable

Element definition: **volume-infinitevol-attributes**

[top]

Information about the state of an Infinite Volume.

Name	Range	Type	Description
constituent-role		repos-constituent-role optional	This field specifies the role of a constituent within a FlexGroup or an Infinite Volume constituent. This field is only supported for FlexGroup and Infinite Volume constituents. Attributes: optional-for-create, non-modifiable Possible values: • "none" , • "namespace" , • "data" , • "root" , • "ns_mirror" , • "member"
enable-snapdiff		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Whether to enable Snapdiff. If enabled, the namespace mirrors will be created for Snapdiff use. The default value is false. Attributes: optional-for-create, modifiable
is-managed-by-service		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies if the volume is managed by GUI services. The deafult value is false. Attributes: optional-for-create, modifiable
max-data-			This parameter is no longer supported as of ONTAP 9.5.0. The maximum size of each data constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on

constituent-size		size optional	all nodes used by the Infinite Volume. The smallest value found is chosen as the default for the max-data-constituent-size for the Infinite Volume. Attributes: optional-for-create, modifiable
max-namespace-constituent-size		size optional	This parameter is no longer supported as of ONTAP 9.5.0. The maximum size of the namespace constituent. The default value is 10TB. Attributes: optional-for-create, modifiable
namespace-mirror-aggr-list		aggr-name[] optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies an array of names of aggregates to be used for Infinite Volume Namespace Mirror constituents. If this input is not specified all the aggregates assigned to the Vserver are used. If the argument 'enable-snapdiff' is being set to 'true', and the Infinite Volume is managed by storage services, a value must be provided. Attributes: optional-for-create, modifiable
storage-service		string optional	This parameter is no longer supported as of ONTAP 9.5.0. The name of the initial storage service for the Infinite Volume. This can only be provided if is-managed-by-service is true. Attributes: optional-for-create, modifiable

Element definition: **volume-inode-attributes**

[top]

Information about inodes in the volume.

Name	Range	Type	Description
block-type		string optional	The indirect block format of the volume. Possible values: • '32_bit', • '64_bit' Attributes: non-creatable, non-modifiable
files-private-used	**[0..2^64-1]**	integer optional	Number of system (not user-visible) files (inodes) used. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
files-set-maximum		boolean optional	Whether the volume's inode count is set to the highest value the volume can hold. Attributes: optional-for-create, modifiable
files-total	**[0..2^64-1]**	integer optional	Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold. Attributes: non-creatable, modifiable
files-used	**[0..2^64-1]**	integer optional	Number of user-visible files (inodes) used. This field is valid only when the volume is online.

			Attributes: non-creatable, non-modifiable
inodefile-private-capacity	**[0..2^64-1]**	integer optional	Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
inodefile-public-capacity	**[0..2^64-1]**	integer optional	Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
inofile-version	**[0..2^32-1]**	integer optional	The inofile version. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable

Element definition: **volume-language-attributes**

[top]

Information about the volume language settings.

Name	Range	Type	Description
is-convert-ucode-enabled		boolean optional	This field controls whether all directories in this volume are forcibly converted to UNICODE format when accessed from both NFS and CIFS. The default value for 7-Mode volumes is false, in which case access from CIFS causes conversion of pre-4.0 and 4.0-format directories, and access from NFS causes conversion to 4.0-format directories. The default value for Cluster-Mode volumes is true. Note that this field can be set to false if and only if the volume is a 7-Mode volume, or a Cluster-Mode volume that was transitioned from 7-Mode. Attributes: non-creatable, modifiable
is-create-ucode-enabled		boolean optional	This field controls whether all directories in this volume are forced to use the UNICODE format when they are created, both from NFS and CIFS. The default value is false for 7-Mode volumes, in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. The default value is true for Cluster-Mode volumes. Note that this field can be set to false if and only if the volume is a 7-Mode volume. Attributes: non-creatable, non-modifiable
language		string optional	The volume's fully-qualified language mapping, in the form: 'LanguageCode (Full Name).' Example: 'en_US (English (US)).' Attributes: non-creatable, non-modifiable
language-code		language-code optional	The volume's language code (e.g. 'en_US'). Volume language can be specified using 'language-code' parameter. Attributes: optional-for-create, modifiable

nfs-character-set		string optional	The NFS language mapping character set that is currently in effect for the volume. This field is of the following format: • '<nfs-character-set>|<display-name>|<asctime>' Note that '|' is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.' It uses the C Programming Language Printf format: • '%.3s %.3s%3d %02d:%02d:%02d %s %d' This format takes the following parameters in order: • <weekday name>, • <month name>, • <month day>, • <hour>, • <minute>, • <second> • <timezone> OR <''>, • <year> E.g., If the volume language code is set to 'en_US,' the default NFS character set is as follows: • 'iso-8859-1|iso-8859-1|Thu Oct 1 15:00:53 PDT 1998' Attributes: non-creatable, non-modifiable
oem-character-set		string optional	The OEM language mapping character set that is currently in effect for the volume. This field is of the following format: • '<oem-code-page>|<display-name>|<asctime>' Note that '|' is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.' It uses the C Programming Language Printf format: • '%.3s %.3s%3d %02d:%02d:%02d %s %d' This format takes the following parameters in order: • <weekday name>, • <month name>, • <month day>, • <hour>, • <minute>, • <second>, • <timezone> OR <''>, • <year> E.g., If the volume language code is set to 'en_US,' the default OEM character set is as follows:

			• 'cp437|cp437|Thu Oct 1 15:00:53 PDT 1998' Attributes: non-creatable, non-modifiable

Element definition: **volume-mirror-attributes**

[top]

Information about the volume mirror.

Name	Range	Type	Description
is-data-protection-mirror		boolean optional	True if this is a data protection mirror. Attributes: non-creatable, non-modifiable
is-load-sharing-mirror		boolean optional	True if this is a load sharing mirror. Attributes: non-creatable, non-modifiable
is-move-mirror		boolean optional	True if this is a volume move mirror. Attributes: non-creatable, non-modifiable
is-replica-volume		boolean optional	True if this is a read only replica volume. Attributes: non-creatable, non-modifiable
is-snapmirror-source		boolean optional	True if this is a SnapMirror source. For load-sharing relationships a volume becomes a SnapMirror source at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source. Attributes: non-creatable, non-modifiable
is-snapmirror-source-to-object-store		boolean optional	True if this is a SnapMirror source to object store. For SnapMirror relationships with object store destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source for object store. Attributes: non-creatable, non-modifiable
is-snapmirror-source-to-ontap		boolean optional	True if this is a SnapMirror source to ONTAP. For load-sharing relationships a volume becomes a SnapMirror source to ontap at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types with ONTAP destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source to ONTAP. Attributes: non-creatable, non-modifiable
			True if a SnapMirror transfer is in progress on this mirrored volume.

mirror-transfer-in-progress		boolean optional	This mirror's active filesystem can be inconsistent during snapmirror transfer. As a result, snapshot create operation is temporary disabled on this mirror until the current transfer session finishes. This field is set to true at the start of a SnapMirror transfer session and set to false at the end of that session. Attributes: non-creatable, non-modifiable
redirect-snapshot-id	**[0..255]**	integer optional	If the volume is a logical mirror destination or is in the process of being made one, this field indicates the logical-id of the snapshot to which clients are to be redirected. If modifiable, when setting this attribute, invalid snapshot id or a non-existent snapshot id specified will be rejected with error ESNAPSHOTDOESNOTEXIST. Failure to set ('stamp') the attribute in the volume will cause error ESTAMPREDIRECTSNAPIDERROR to be returned. This field can be set only for online volumes. This option is valid only in Cluster-Mode. The volume can be set to have no redirection snapshot by using a value of 0. This option can be set only for Cluster-Mode volumes participating in a logical-mirror relationship. Setting this field on a Cluster-Mode volume which is not a logical mirror destination (yet) will not have any impact on client access or the volume's behavior. The client access will be impacted with regard to this value only when the volume is converted to a logical-mirror destination. When reading this attribute, the value of 0 indicates volume has no redirection snapshot. The field cannot be interpreted authoritatively if the volume is offline or restricted. Attributes: non-creatable, non-modifiable

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **volume-performance-attributes**

[top]

Information about performance settings on a volume.

Name	Range	Type	Description
atime-update-period	**[0..2^32-1]**	integer optional	The periodical value to know when to update the atime. By default, the value is 0 seconds but for FlexCache and origin volumes, it is 86400 seconds. Attributes: optional-for-create, modifiable
extent-enabled		string optional	This parameter has been deprecated and may be removed in a future release of Data ONTAP. If turned on, this field enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. The following values are recognized: • 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed. • 'space-optimized' ... Perform this optimization on this volume, but do not duplicate blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded. • 'off' ... Don't perform this optimization on this volume. By default, it is set to 'off'. Using extents may help workloads that perform many small random writes followed by a large sequential read. However, using extents may increase the number of disk operations performed on the controller, so this field should only be turned on when applicable. Attributes: non-creatable, modifiable
fc-delegs-enabled		boolean optional	If true, FlexCache Read Delegations are turned on for this volume. On by default, only settable in Diag mode. Attributes: non-creatable, modifiable
is-atime-update-enabled		boolean optional	If false, prevent the update of inode access times when a file is read. This value is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files. By default, this value is true. This field should be used carefully. That is, use this field when you know in advance that the correct access time for inodes will not be needed for files on that volume. Attributes: non-creatable, modifiable
is-preserve-unlink-enabled		boolean optional	Specifies whether the preserve-unlink enabled for NFSv4.1 shares. When enabled, it means that a file removal op on a file with existing share locks will result in the file getting moved to a trash directory. Clients will be able to access the file using the file handle. The last close for that file will result in deletion of the file. By default, the value is false. Attributes: optional-for-create, modifiable
max-			The maximum number of blocks used for write allocation.

write-alloc-blocks	**[0..2048]**	integer optional	This option is deprecated. Attributes: optional-for-create, modifiable
minimal-read-ahead		boolean optional	If true, the node performs minimal read-ahead for the volume. By default, this field is false, causing the node that contains this volume to perform very aggressive read-ahead. Attributes: non-creatable, modifiable
read-realloc		string optional	Controls whether application reads cause optimization of the layout of parts of a file or LUN after the data has been read from disk and is in the controller's memory. This optimization is only supported for flexible volumes. The following values are recognized: • 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed. • 'space-optimized' ... Perform this optimization on this volume, but do not duplicated blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded. • 'off' ... Don't perform this optimization on this volume. By default, it is set to 'off'. Using read reallocation may help workloads that perform a mixture of random writes and large sequential reads. Attributes: non-creatable, modifiable
single-instance-data-logging		string optional	Indicates whether Single Instance Data Logging is enabled on the volume. This feature is supported only on Cloud ONTAP. Possible values: • 'on' : Single Instance Data Logging enabled. • 'off' : Single Instance Data Logging disabled. The default value is 'off'. Attributes: non-creatable, non-modifiable

Element definition: **volume-qos-attributes**

[top]

QoS policy group or adaptive policy group attached with a volume.

Name	Range	Type	Description
adaptive-policy-group-name		string optional	The QoS adaptive policy group associated with this volume. This optionally specifies which QoS adaptive policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that adjust based on the volume allocated space or used space. This parameter is not supported on Infinite Volumes. Attributes: optional-for-create, modifiable
			The QoS policy group associated with this volume.

policy-group-name		string optional	This optionally specifies which QoS policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that do not adjust based on the volume allocated space or used space. If you do not assign a policy group to a volume, the system will not monitor and control the traffic to it. This parameter is not supported on Infinite Volumes. Attributes: optional-for-create, modifiable

Element definition: **volume-security-attributes**

[top]

All security aspects of a volume.

Name	Range	Type	Description
style		string optional	The security style associated with this volume. Possible values: • 'mixed' ... Mixed-style security, • 'ntfs' ... NTFS/Windows-style security, • 'unified' .Unified-style security, Unified UNIX, NFS and CIFS permissions (default for Infinite Volume) • 'unix' ... Unix-style security (default for Flexible Volume, FlexGroup and FlexGroup Constituent) This field is only returned if this volume is online. If this field is empty ('') or not present for an online volume, this attribute isn't applicable to the volume. Only Infinite Volumes can use the 'unified' security style. All other volumes cannot use the 'unified' security style. Using 'unified' for a non-Infinite Volume will result in an error. FlexGroups and FlexGroup Constituents can only have 'unix' security style. Setting other security styles for FlexGroups or FlexGroup Constituents will result in an error. Attributes: optional-for-create, modifiable
volume-security-unix-attributes		volume-security-unix-attributes optional	The Unix-oriented security settings associated with this volume.

Element definition: **volume-sis-attributes**

[top]

Statistics for Deduplication, file clone, compression, etc.

Name	Range	Type	Description
compression-space-saved	**[0..2^63-1]**	integer optional	The total disk space (in bytes) that is saved by compressing blocks on the referenced file system. Attributes: non-creatable, non-modifiable
deduplication-space-saved	**[0..2^63-1]**	integer optional	The total disk space (in bytes) that is saved by deduplication and file cloning.

			Attributes: non-creatable, non-modifiable
deduplication-space-shared		size optional	The total disk space shared due to deduplication and file cloning. Attributes: non-creatable, non-modifiable
is-sis-logging-enabled		boolean optional	If true, it means that sis is enabled on the volume and fingerprints of newly-written data are being logged. Attributes: non-creatable, non-modifiable
is-sis-state-enabled		boolean optional	If true, it means that the current sis state is enabled on the volume. Attributes: non-creatable, non-modifiable
is-sis-volume		boolean optional	If true, it means that the volume contains shared (deduplication, file clones) or compressed data. If SIS is disabled, this field is false. Attributes: non-creatable, non-modifiable
percentage-compression-space-saved	**[0..100]**	integer optional	Percentage of the total disk space that is saved by compressing blocks on the referenced file system. Attributes: non-creatable, non-modifiable
percentage-deduplication-space-saved	**[0..100]**	integer optional	Percentage of the total disk space that is saved by deduplication and file cloning. Attributes: non-creatable, non-modifiable
percentage-total-space-saved	**[0..100]**	integer optional	Percentage of total disk space that is saved by compressing blocks, deduplication and file cloning. Attributes: non-creatable, non-modifiable
total-space-saved	**[0..2^63-1]**	integer optional	Total space saved (in bytes) in the volume due to deduplication, compression, and file cloning. Attributes: non-creatable, non-modifiable

Element definition: **volume-snaplock-attributes**

[top]

Information about the snaplock volumes.

Name	Range	Type	Description
snaplock-type		snaplocktype optional	SnapLock type of the volume. Attributes: optional-for-create, non-modifiable Possible values: • "non_snaplock" - Non SnapLock, • "compliance" - SnapLock Compliance, • "enterprise" - SnapLock Enterprise

Element definition: **volume-snapshot-attributes**

[top]

Information about snapshot-related attributes in a volume. Volume disk space-related settings are excluded.

Name	Range	Type	Description
auto-snapshots-enabled		boolean optional	If true, enable automatic snapshots on the volume. The default value is true. Attributes: non-creatable, non-modifiable
snapdir-access-enabled		boolean optional	If true, enable the visible '.snapshot' directory that is normally present at system internal mount points. This value also turns on access to all other '.snapshot' directories in the volume. The default value is true. Attributes: optional-for-create, modifiable
snapshot-clone-dependency-enabled		boolean optional	Controls the locking of LUN clones. If true, all initial and intermediate backing snapshots are unlocked for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked. If false, the backing snapshot will remain locked until all intermediate backing snapshots are deleted. This field is deprecated and will always be false in Data ONTAP 8.3 and later. Attributes: non-creatable, modifiable
snapshot-count	**[0..1023]**	integer optional	Number of Snapshot Copies in the volume. Attributes: non-creatable, non-modifiable
snapshot-policy		string optional	The name of the snapshot policy. The default policy name is 'default'. This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs. Attributes: optional-for-create, modifiable

Element definition: **volume-snapshot-autodelete-attributes**

[top]

Snapshot autodelete policy settings.

Name	Range	Type	Description
commitment		string optional	Possible values: • 'try', • 'disrupt', or • 'destroy' This option determines the snapshots that 'snapshot autodelete' is allowed to delete to get back space. Setting this option to 'try' only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data-backing functionalities

			(volume and LUN clones) to be deleted. Setting this option to 'disrupt' permits all snapshots including the snapshots which are locked by data-backing functionalities (volume and LUN clones) to be deleted. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
defer-delete		string optional	Possible values: • 'scheduled', • 'user_created', • 'prefix', or • 'none' This option determines which kind of snapshots to delete. Setting this option value to 'scheduled' will delete the snapshots created by the snapshot scheduler last. Setting this option value to 'user_created' will delete the snapshots not created by the snapshot scheduler last. Setting this option value to 'prefix' will delete the snapshots matching the prefix string to be deleted last. Setting this option value to 'none' will disable the above choices. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
delete-order		string optional	Possible values: • 'oldest_first', • 'newest_first' This option determines if the oldest or newest snapshot is deleted first. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
destroy-list		string optional	Possible values are the combination of: • 'lun_clone', • 'vol_clone', • 'cifs_share', • 'file_clone', • 'sfsr', or • 'none' This options specifies the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to 'destroy'. The option 'lun_clone,file_clone' should be used for deleting snapshot backing LUN clone and/or File clone. The option 'lun_clone,sfsr' should be used for deleting snapshot backing LUN clone and/or SFSR. It must be noted that 'lun_clone', 'file_clone' and 'sfsr' individually are not valid values. Only pairs of 'lun_clone,file_clone' and 'lun_clone,sfsr' are supported. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
is-autodelete-enabled		boolean optional	This option determines if the snapshot autodelete is currently enabled for the volume. The default value is false. Attributes: non-creatable, modifiable
prefix		string optional	This option provides the prefix string for the 'prefix' field value of the 'defer-delete' option. If the null prefix is set, the string '(not specified)' is returned. This field is not set on FlexGroups. Attributes: non-creatable, modifiable

target-free-space	**[0..100]**	integer optional	This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted until we reach the target free space percentage. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
trigger		string optional	Possible values: • 'volume', • 'snap_reserve', or • '(DEPRECATED)-space_reserve' This option determines the condition in which snapshots should be automatically deleted. This field is not set on FlexGroups. If modifiable, setting this option to 'volume' triggers snapshot autodelete to run when the volume is near full. Setting this option to 'snap_reserve' triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to 'space_reserve' triggers snapshot autodelete to run when the space reserved in the volume is near full. Attributes: non-creatable, modifiable

Element definition: **volume-space-attributes**

[top]

Information about volume space management-related settings including on-disk layout.

Name	Range	Type	Description
expected-available	**[0..2^63-1]**	integer optional	The size (in bytes) that should be available for the volume irrespective of available size in the aggregate. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volume's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameteris not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
filesystem-size	**[0..2^63-1]**	integer optional	Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
is-filesys-size-fixed		boolean optional	If true, this field causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken. This option is automatically set to 'true' when a volume becomes SnapMirrored. It remains true after the SnapMirror relationship is broken for the volume. This field allows a volume to be SnapMirrored back to the source without needing to grow the source volume. If the volume size is larger than the file system size, setting

			this field to false forces the file system to grow to the size of the volume. Attributes: non-creatable, modifiable
is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. The default setting is false. Attributes: optional-for-create, modifiable
is-space-guarantee-enabled		boolean optional	Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field is valid only if this is a flexible volume and it is online. By default, space guarantee is enabled. Attributes: non-creatable, non-modifiable
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. The default setting is false. Attributes: optional-for-create, modifiable
is-space-slo-enabled		boolean optional	Whether or not the space SLO type associated with the flexible volume is currently in effect. Space SLO is not enabled if space guarantee is not enabled. Try enabling the space guarantee or set the volume's space SLO setting to 'none'. This field is valid only if this is a flexible volume and it is online. By default, space SLO type is none and is enabled. Attributes: non-creatable, non-modifiable
is-used-stale		string optional	If true, the used counter is stale. By default, this field is false. Attributes: non-creatable, non-modifiable
logical-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically available in the volume. This is the amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
logical-used	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
logical-used-by-afs	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used by the active filesystem of the volume. This value differs from 'logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable

logical-used-by-snapshots	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used across all Snapshot copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
logical-used-percent	**[0..2^32-1]**	integer optional	Percentage of the logical used size of the volume. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
max-constituent-size		size optional	The maximum size of each constituent in bytes. The default value is determined by first checking the maximum FlexVol size setting on all nodes used by the FlexGroup, and then selecting the smallest value found. This parameter is only supported on FlexGroups. Attributes: optional-for-create, modifiable
over-provisioned	**[0..2^63-1]**	integer optional	The size (in bytes) that is not available in the aggregate for a volume. This applies only for a 'none' guaranteed volume when it's unused size exceeds available space in the aggregate. This value is always zero for 'volume' guaranteed volumes. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
overwrite-reserve	**[0..2^63-1]**	integer optional	The size (in bytes) that is reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to 'overwrite-reserve-required' if the value of 'percentage-fractional-reserve' is set to the default value of 100%, but otherwise may be less than 'overwrite-reserve-required'. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
overwrite-reserve-required	**[0..2^63-1]**	integer optional	The reserved size (in bytes) that is required to ensure that the reserved space is sufficient to allow all space-reserved files and LUNs to be overwritten when the volume is full. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
overwrite-reserve-used	**[0..2^63-1]**	integer optional	The reserved size (in bytes) that is not available for new overwrites. The number includes both the reserved size which has actually been used for overwrites as well as the size which was never allocated in the first place. On a volume without free space, the 'never allocated' component can become non-zero when 'overwrite-reserve-required' increases as holes are filled in. Because of this, the 'overwrite-reserve-used' value can exceed the snapshotted size. The 'overwrite-reserve-used' value can also exceed the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
overwrite-	**[0..2^63-**	integer	The reserved size (in bytes) that has been used. This value is computed as the smaller of: (1) snapshotted size not in the active filesystem, and (2) 'overwrite-reserve-used'. This formula comes from the observation that you cannot have used more overwrite reserved than have actually overwritten data. This value can exceed

reserve-used-actual	**1]**	optional	the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
percentage-fractional-reserve	**[0..100]**	integer optional	This field can be used to change the amount of space reserved for overwrites of reserved objects (e.g., files, LUNs) in a volume. This field is expressed as a percent. By default, it is set to 100, indicating that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites. Using a value of less than 100 indicates the percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors, since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted, this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion. Attributes: non-creatable, modifiable
percentage-size-used	**[0..100]**	integer optional	Percentage of the volume size that is used. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
percentage-snapshot-reserve	**[0..100]**	integer optional	The percentage of volume disk space that has been set aside as reserve for snapshot usage. Attributes: optional-for-create, modifiable
percentage-snapshot-reserve-used	**[0..2^32-1]**	integer optional	Percentage of the volume reserved for snapshots that has been used. Note that in some scenarios, it is possible to pass 100% of the space allocated. Attributes: non-creatable, non-modifiable
performance-tier-inactive-user-data	**[0..2^63-1]**	integer optional	The size (in bytes) that is physically used in the performance tier of the volume and has a cold temperature. This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an object store. Attributes: non-creatable, non-modifiable
performance-tier-inactive-user-data-percent	**[0..100]**	integer optional	The size (in percent) that is physically used in the performance tier of the volume and has a cold temperature. The percentage is based on volume size including the space reserved for Snapshot copies. This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an object store. Attributes: non-creatable, non-modifiable
			The size (in bytes) that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies.

physical-used	**[0..2^63-1]**	integer optional	This field is valid only if the volume is online. Attributes: non-creatable, non-modifiable
physical-used-percent	**[0..2^32-1]**	integer optional	The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies. This field is valid only if the volume is online. Attributes: non-creatable, non-modifiable
size	**[0..2^63-1]**	integer optional	Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This field can not be set on Infinite Volumes that are managed by storage services. Attributes: optional-for-create, modifiable
size-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is still available in the volume. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
size-available-for-snapshots	**[0..2^63-1]**	integer optional	Total free space (in bytes) available in the volume and the snapshot reserve. If this value is 0 or negative, a new snapshot cannot be created. Attributes: non-creatable, non-modifiable
size-total	**[0..2^63-1]**	integer optional	Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
size-used	**[0..2^63-1]**	integer optional	The size (in bytes) that is used in the volume. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
size-used-by-snapshots	**[0..2^63-1]**	integer optional	The size (in bytes) that is used by snapshots in the volume. Attributes: non-creatable, non-modifiable
snapshot-reserve-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For 'none' guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
snapshot-reserve-size	**[0..2^63-1]**	integer optional	The size (in bytes) in the volume that has been set aside as reserve for snapshot usage. Attributes: non-creatable, non-modifiable
space-full-threshold-percent	**[0..100]**	integer optional	This field defines the used space threshold percentage at which EMS critical errors regarding the volume fullness will be generated. The default value is 98%. Setting this threshold to 0 disables the volume full space alerts. This field is valid only if the volume is online. Attributes: non-creatable, modifiable

space-guarantee		string optional	The storage guarantee option that is associated with the flexible volume. Possible options: • 'none', • 'volume' (default option) This field is valid only if the volume is online. For data-cache volumes, this field is not returned. This field can not be set on Infinite Volumes that are managed by storage services. Attributes: optional-for-create, modifiable Possible values: • "none" , • "volume"
space-mgmt-option-try-first		string optional	This field controls the strategy to try first when this volume is space-challenged. This field is not set on FlexGroups. There are two available settings: • 'volume_grow' ... (default setting) Causes the volume to increase in size before deleting snapshots, • 'snap_delete' ... Causes snapshots to be deleted before the volume size is increased. Attributes: non-creatable, modifiable
space-nearly-full-threshold-percent	**[0..100]**	integer optional	This field defines the used space threshold percentage at which EMS warnings regarding the volume fullness will be generated. The default value is 95%. Setting this threshold to 0 disables the volume nearly full space alerts. This field is valid only if the volume is online. Attributes: non-creatable, modifiable
			The space SLO type that is associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside to meet the space SLO. This parameter is not supported on Infinite Volumes. The default setting is none. There are three supported values: none, thick and semi-thick. none: The value of none does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors. thick: The value of thick guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported. • Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's fractional-reserve setting is not supported.

space-slo		space-slo-enum optional	semi-thick: The value of semi-thick is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported. • Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's fractional-reserve setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved. • Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: ◦ enabled: true ◦ commitment: destroy ◦ trigger: volume ◦ defer-delete: none ◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share In addition, with a value of semi-thick, the following technologies are not supported for the volume: • File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of autodelete for file clone create is required. • Partial File Clones: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of range for file clone create is not supported. • Volume Efficiency: Enabling volume efficiency is not supported to allow autodeletion of Snapshot copies. Possible options: • 'thick', • 'semi-thick', • 'none' (default option) This field is valid only if the volume is online. For data-cache volumes, this field is not returned. This field can not be set on Infinite Volumes that are managed by storage services. Attributes: optional-for-create, modifiable Possible values: • "none" , • "thick" , • "semi_thick"

Element definition: **volume-state-attributes**

[top]

Information about the state or status of a volume or its features.

Name	Range	Type	Description
become-node-root-after-reboot		boolean optional	Whether this non node-root volume has been marked as the one that will become the node root volume the next time the hosting controller is rebooted. Only one volume at a time may have this marking on any given controller. This field is not directly settable. Instead, a legal request to set the 'is-node-root' attribute (if modifiable) causes this field to be set. Note that marking a volume that is already the node root volume as the new node root has no net effect. This field is not set on FlexGroups. By default, this field is false. Attributes: non-creatable, non-modifiable
constituent-count	**[0..2^32-1]**	integer optional	Number of constituents in a FlexGroup. Attributes: non-creatable, non-modifiable
force-nvfail-on-dr		boolean optional	If true, volume would be put in a special state called 'in-nvfailed-state' by 'metrocluster-switchover' API that performs a disaster recovery operation. This field has no effect for negotiated or an automatic switchover, and is not set on FlexGroups. The protocol access on the volume in 'in-nvfailed-state' is blocked. This will cause the client applications to crash and thus prevent access to data on the volume. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume. By default, this value is false. Attributes: non-creatable, modifiable
ignore-inconsistent		boolean optional	If true, then the volume can be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running wafliron may result in further file system inconsistency. This field is not set on FlexGroups. By default, this field is false. Attributes: non-creatable, non-modifiable
in-nvfailed-state		boolean optional	The user can only clear this state and never set it. The file system will set this state on the volume if NVFAIL event occurs. So long as the volume is in this state, all protocol Ops with a special SpinNP flag set are blocked. By clearing this state on the volume, the admin will allow protocol access to the data on the volume and can initiate the recovery process. By default, this field is false. Attributes: non-creatable, modifiable
			Indicates whether this volume is a Cluster-Mode volume, namely one that is owned by cluster authorities and agents. These same clustering agents also provide all protocol services for this class of volume. Cluster-Mode volumes are not supported in 7-Mode Data ONTAP deployments. All such volumes are forced offline whenever they are detected in that environment.

is-cluster-volume		boolean optional	Similarly, all 7-Mode volumes on a Data ONTAP Cluster-Mode system (except each controller's root volume) are by default forced offline. There are exceptions, in particular when a 7-Mode volume is being prepared to become that controller's new root volume in a recovery scenario. At the moment, traditional volumes cannot be Cluster-Mode volumes. By default, this field is false. Attributes: non-creatable, non-modifiable
is-constituent		boolean optional	This field indicates if this volume is a constituent within another volume. For a FlexGroup or Infinite Volume, this field is true for all their constituents. This field is set to false for volumes which are not the constituents of a FlexGroup or Infinite Volume. The default value is false. Attributes: non-creatable, non-modifiable
is-flexgroup		boolean optional	This field indicates if this volume is a FlexGroup. Attributes: non-creatable, non-modifiable
is-flexgroup-qtree-enabled		boolean optional	Indicates whether a FlexGroup or origin of a FlexCache volumesupports creation of Qtrees. Attributes: non-creatable, non-modifiable
is-inconsistent		boolean optional	Whether or not there is known inconsistency in the file system associated with the volume. By default, the value is false. Attributes: non-creatable, non-modifiable
is-invalid		boolean optional	Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted SnapMirror(R) initial transfer. In such a case, a volume is in a half-created state and cannot be recovered. By default, the value is false. Attributes: non-creatable, non-modifiable
is-junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. Attributes: optional-for-create, modifiable
is-move-destination-in-cutover		boolean optional	Indicates whether the volume is the destination of a move that is in cutover. Attributes: non-creatable, non-modifiable
is-moving		boolean optional	Is the given volume moving? If true, this volume is moving from one aggregate to another aggregate in the cluster. The aggregates can be on different nodes of the cluster. Attributes: non-creatable, non-modifiable
is-node-root		boolean optional	If true, this volume is the root volume of the node in which it resides. This field is not set on FlexGroups. Only the node's internal logic can change this option's value from true to false; this happens when some other volume has the value set to true.

			By default, this field is false. Attributes: non-creatable, non-modifiable
is-nvfail-enabled		boolean optional	If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure. For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found. For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume. By default, this value is false. Attributes: optional-for-create, modifiable
is-protocol-access-fenced		boolean optional	This field indicates if this volume is fenced for protocol access. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access. Attributes: non-creatable, non-modifiable
is-quiesced-in-memory		boolean optional	Is the given volume quiesced? If true, this volume is in an (in-memory) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false. Attributes: non-creatable, non-modifiable
is-quiesced-on-disk		boolean optional	Is the given volume quiesced? If true, this volume is in an (on-disk) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false. Attributes: non-creatable, non-modifiable
is-smbc-failover-capable		boolean optional	This field indicates if volume is SMBC failover capable. This parameter is only supported if volume is part of SMBC relationship Attributes: non-creatable, non-modifiable
is-smbc-master		boolean optional	This field indicates if volume is an SMBC master. This parameter is only supported if volume is part of SMBC relationship Attributes: non-creatable, non-modifiable
is-unrecoverable		boolean optional	Whether or not there is known inconsistency in the associated file system and it is not recoverable. This field is valid only for flexible volumes.

			By default, this field is false. Attributes: non-creatable, non-modifiable
is-volume-in-cutover		boolean optional	Is the given volume move operation in cutover phase? If true, this volume is moving from one aggregate to another aggregate in the cluster and is in cutover phase. The aggregates can be on different nodes of the cluster. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
is-vserver-root		boolean optional	If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. This field is not set on FlexGroups. When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. Attributes: optional-for-create, non-modifiable
protocol-access-fenced-by		string optional	This field indicates the owner of the protocol access fence when the volume's protocol access is fenced. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access. Possible values: • 'none', • 'coordinated_snaprestore', • 'coordinated_redirection', • 'snapmirror_synchronous', • 'vserver_migrate' Attributes: non-creatable, non-modifiable
smbc-consensus		string optional	This field indicates consensus state of SMBC volume. Possible values: • 'Awaiting-consensus', • 'Consensus', • 'No-consensus' Attributes: non-creatable, non-modifiable
state		string optional	Volume State. Possible values: • 'online', • 'restricted', • 'offline', • 'mixed' If a FlexGroup or Infinite Volume's constituents are not all in the same state, it will return 'mixed'. The 'mixed' state is read-only. Attributes: optional-for-create, modifiable
status		string[] optional	Volume status. Attributes: non-creatable, non-modifiable

Element definition: **volume-transition-attributes**

[top]

Information about the transition attributes of a volume.

Name	Range	Type	Description
is-cft-precommit		boolean optional	Indicates whether the volume is in the pre-commit phase of Copy-Free Transition. This field is not set on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
is-copied-for-transition		boolean optional	Indicates whether the volume has been copied for copy based transition. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
is-transitioned		boolean optional	Indicates whether the volume has gone through a transition operation at some point in the past. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
transition-behavior		string optional	For an in progress transition, indicate what the behavior is. This field is not set on FlexGroups. Possible values: • 'none' ... No transition is in progress, • 'data-move' ... Transition will follow volume move behavior. For example, Lun serial number is preserved, • 'data-protection' ... Transition will follow a data protection relationship behavior. Attributes: non-creatable, non-modifiable

Element definition: **volume-vm-align-attributes**

[top]

Information related to the Virtual Machine alignment settings on the volume.

Name	Range	Type	Description
vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. This field is not set on FlexGroups. Attributes: optional-for-create, non-modifiable
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz'. is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this. This field is not set on FlexGroups. Attributes: optional-for-create, non-modifiable

Element definition: **volume-vserver-dr-protection-attributes**

[top]

Information related to volume protection type in a Vserver DR setup.

Name	Range	Type	Description
vserver-dr-protection		string optional	Indicates whether the volume will be replicated to the destination in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination. Attributes: optional-for-create, modifiable Possible values: • "protected" - Volume is protected by Vserver DR, • "unprotected" - Volume is not protected by Vserver DR

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cache-policy**

[top]

Cache Policy Name

[none]

Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,

- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

Name	Range	Type	Description
checksum-style		string	Checksum style. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown, • "wafl" - wafl, • "zoned" - zoned (this value is no longer supported).
cluster-disk-names		disk-info[] optional	List of disks in this plex by their spatial names, if available.
disks		disk-info[]	List of disks in this plex.
is-cache-tier		boolean	"true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space).
is-recomputing-parity		boolean	"true" if the RAID group is currently recomputing parity.
is-reconstructing		boolean	"true" if the RAID group is currently reconstructing.
is-scrub-suspended		boolean optional	Suspended state of the scrub on that RAID group.
last-scrub-timestamp		integer optional	Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1].
name		string	RAID group name.

recomputing-parity-percentage		integer optional	The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100]
reconstruction-percentage		integer optional	If reconstruction is going on, the the completion percentage. Range : [0-100]
scrub-percentage-complete		integer optional	Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100].

Element definition: **repos-constituent-role**

[top]

Constituent Roles Possible values:

- "none" ,
- "namespace" ,
- "data" ,
- "root" ,
- "ns_mirror" ,
- "member"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **space-slo-enum**

[top]

none|thick|semi-thick Possible values:

- "none" ,
- "thick" ,

- "semi_thick"

[none]

Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volstyle** [top]

flex Possible values:

- "flex" - Flexible Volume,
- "infinitevol" - Infinite Volume

[none]

Element definition: **volume-64bit-upgrade-check-info** [top]

Information returned when upgrade-64bit-mode in aggr-add is "check". Upgrade check results such as "used-space", "available-space", "capacity", and "grow-space" are only updated after the space estimate is completed successfully.

Name	Range	Type	Description
age		integer optional	The age in seconds of the space check results. Range: [0..2^64-1].
available-space		integer optional	Amount of space (in bytes) that would be available in the volume after it is upgraded to 64-bit. Range: [0..2^64-1].
capacity		integer optional	Percentage of space that would be used in the volume after it is upgraded to 64-bit. Range: [0..100].
grow-space		integer optional	Amount of space (in bytes) the volume must be grown by before successfully upgrading its current data. Range: [0..2^64-1]
last-errno		integer optional	The error code of the last attempt to check for space usage on the specific volume. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Upgrade check results may be out of date if last-errno is not 0.
used-space		integer optional	Amount of space (in bytes) that would be used in the volume after it is upgraded to 64-bit. Range: [0..2^64-1].

Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

Name	Range	Type	Description
on-access-policy		string optional	{Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'. If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces. Attributes: optional-for-create, modifiable

Element definition: **volume-clone-parent-attributes**

[top]

Information describing the parentage of a clone volume.

Name	Range	Type	Description
dsid	**[0..2^64-1]**	integer optional	The clone parent volume's Data Set ID. Attributes: non-creatable, non-modifiable
msid	**[0..2^64-1]**	integer optional	The clone's parent volume's Mirror Set ID. Attributes: non-creatable, non-modifiable
name		volume-name optional	The clone parent volume's human-readable name. Attributes: non-creatable, non-modifiable
snapshot-id	**[0..2^64-1]**	integer optional	The clone parent volume's base snapshot identifier. The only legal value for a snapshot identifier is its Data Set ID. Attributes: non-creatable, non-modifiable
snapshot-name		string optional	The clone parent volume's base snapshot name. Attributes: non-creatable, non-modifiable
uuid		uuid optional	The clone parent volume's UUID. Attributes: non-creatable, non-modifiable
vserver-name		vserver-name optional	The Vserver under which the clone parent volume resides. Attributes: non-creatable, non-modifiable

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **volume-security-unix-attributes**

[top]

The Unix-oriented security settings associated with this volume.

Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer optional	The UNIX group ID for the volume. The default value is 0 ('root'). Attributes: optional-for-create, modifiable
permissions		string optional	Unix permission bits in octal string format. It's similar to Unix style permission bits: In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users. In Data ONTAP Cluster-Mode, for security style 'mixed' or 'unix', the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style 'ntfs', the default setting of '0000' gives no permissions to owner, group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. Attributes: optional-for-create, modifiable
user-id	**[0..2^32-1]**	integer optional	The UNIX user ID for the volume. The default value is 0 ('root'). Attributes: optional-for-create, modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **vscan**

vscan-active-scanner-pool-get-iter
vscan-connection-extended-stats-get-iter
vscan-connection-status-all-get-iter
vscan-events-get-iter
vscan-on-access-policy-create
vscan-on-access-policy-delete
vscan-on-access-policy-get-iter
vscan-on-access-policy-modify
vscan-on-access-policy-status-modify
vscan-on-demand-report-delete
vscan-on-demand-report-get-iter
vscan-on-demand-task-create
vscan-on-demand-task-delete
vscan-on-demand-task-get-iter
vscan-on-demand-task-modify
vscan-on-demand-task-run
vscan-reset
vscan-resolve-hostnames
vscan-scanner-pool-apply-policy
vscan-scanner-pool-create
vscan-scanner-pool-delete
vscan-scanner-pool-get-iter
vscan-scanner-pool-modify
vscan-status-get-iter
vscan-status-modify

This set of APIs allow configuring and managing Vscan on Data ONTAP Cluster-Mode environment. This includes the APIs to retrieve the connection-status and other diagnostic information of active Vscan servers.

vscan-active-scanner-pool-get-iter

[top]

Returns active scanner pool configuration of a vserver.

Input Name	Range	Type	Description
desired-attributes		vscan-active-scanner-pool-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-active-scanner-pool-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-active-scanner-pool object. All vscan-active-scanner-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-active-scanner-pool-info[] optional	The list of attributes of vscan-active-scanner-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-active-scanner-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

vscan-connection-extended-stats-get-iter

[top]

Returns connection status.

Input Name	Range	Type	Description
desired-attributes		vscan-connection-extended-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-connection-extended-stats-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-extended-stats object. All vscan-connection-extended-stats

		optional	objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-connection-extended-stats-info[] optional	The list of attributes of vscan-connection-extended-stats objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-connection-extended-stats objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ENODENOTFOUND	
E_SCANNER_POOL_NOT_FOUND	

vscan-connection-status-all-get-iter

[top]

Returns connection status.

Input Name	Range	Type	Description
desired-attributes		vscan-connection-status-all-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-connection-status-all-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-status-all object. All vscan-connection-status-all objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-connection-status-all-info[] optional	The list of attributes of vscan-connection-status-all objects.

next-tag		string optional	Tag for the next call. Not present when there are no more vscan-connection-status-all objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ENODENOTFOUND	
E_SCANNER_POOL_NOT_FOUND	

vscan-events-get-iter

[top]

Returns content of the vscan event log, which is generated by the cluster to capture important events.

Input Name	Range	Type	Description
desired-attributes		vscan-events-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-events-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-events object. All vscan-events objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-events-info[] optional	The list of attributes of vscan-events objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-events objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ENODENOTFOUND	

[top]

vscan-on-access-policy-create

Create an On-Access policy.

Input Name	Range	Type	Description
file-ext-to-exclude		file-extension[] optional	File extensions for which On-Access scanning must not be performed.
file-ext-to-include		file-extension[] optional	File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning.
filters		vscan-on-access-policy-ui-filter[] optional	A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values: • "scan_ro_volume" - Enable scans for read-only volume, • "scan_execute_access" - Scan only files opened with execute-access (CIFS only)
is-scan-mandatory		boolean optional	Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy.
paths-to-exclude		file-path[] optional	File paths for which On-Access scanning must not be performed.
policy-name		policy-name	Name of the policy.
protocol		vscan-protocol	File-Access protocol to monitor for On-Access scanning. Possible values: • "cifs" - CIFS Protocol
return-record		boolean optional	If set to true, returns the vscan-on-access-policy on successful creation. Default: false
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.

Output Name	Range	Type	Description
result		vscan-on-access-policy-info optional	The vscan-on-access-policy created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_OA_POLICY_EXISTS	
E_OA_POLICY_CANNOT_CREATE_MAX_LIMIT	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-on-access-policy-delete

[top]

Delete an On-Access policy.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	
EAPIPRIVILEGE	
E_OA_POLICY_CANNOT_DELETE	
ERESOURCEINUSE	

vscan-on-access-policy-get-iter

[top]

Returns list of On-Access policies.

Input Name	Range	Type	Description
desired-attributes		vscan-on-access-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-on-access-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-access-policy object. All vscan-on-access-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-on-access-policy-info[] optional	The list of attributes of vscan-on-access-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-on-access-policy objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	

vscan-on-access-policy-modify

[top]

Modify an On-Access policy.

Input Name	Range	Type	Description
file-ext-to-exclude		file-extension[] optional	File extensions for which On-Access scanning must not be performed.
file-ext-to-include		file-extension[] optional	File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning.
filters		vscan-on-access-policy-ui-filter[] optional	A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values: • "scan_ro_volume" - Enable scans for read-only volume, • "scan_execute_access" - Scan only files opened with execute-access (CIFS only)
is-scan-mandatory		boolean optional	Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy.
paths-to-exclude		file-path[] optional	File paths for which On-Access scanning must not be performed.
policy-name		policy-name	Name of the policy.
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	
EAPIPRIVILEGE	

[top]

vscan-on-access-policy-status-modify

Modify On-Access policy status.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.
policy-status		boolean	Policy Status

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	
ERESOURCEINUSE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-on-demand-report-delete

[top]

Delete an On-Demand report.

Input Name	Range	Type	Description
delete-report-file		true-false optional	Specifies if report file also need to be deleted. Default is false.
report-file		string	Path of the report file from root of the Vserver.
task-name		string	Name of the task.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	
ERESOURCEINUSE	

vscan-on-demand-report-get-iter

[top]

Returns list of On-Demand Task Report.

Input Name	Range	Type	Description
desired-attributes		vscan-on-demand-report-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

		optional	
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-on-demand-report-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-report object. All vscan-on-demand-report objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-on-demand-report-info[] optional	The list of attributes of vscan-on-demand-report objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-on-demand-report objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

vscan-on-demand-task-create

[top]

Create an On-Demand Task.

Input Name	Range	Type	Description
cross-junction		true-false optional	Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true.
directory-recursion		true-false optional	Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true.
file-ext-to-exclude		file-extension[] optional	File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
file-ext-to-include		file-extension[] optional	File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task.

paths-to-exclude		string[] optional	File-paths for which scanning must not be performed.
report-directory		string	Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports.
report-expiry-time		time-interval optional	Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0
report-log-level		vscan-od-log-level optional	Log level for the On-Demand report. Default is error. Possible values: • "verbose" - Report file will contain verbose logs for each file found in the scan-path., • "info" - Report file will contain info and error logs., • "error" - Report file will contain only error logs.
request-timeout		time-interval optional	Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout.
return-record		boolean optional	If set to true, returns the vscan-on-demand-task on successful creation. Default: false
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.
scan-paths		string[]	List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files.
scan-priority		vscan-scan-priority optional	Priority of the On-Demand scan requests generated by this task. Default is low. Possible values: • "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue., • "normal" - The scan request will be processed normally.
schedule		string optional	Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task.
task-name		string	Name of the task.

Output Name	Range	Type	Description
result		vscan-on-demand-task-info optional	The vscan-on-demand-task created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_OD_TASK_CANNOT_CREATE_MAX_LIMIT	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-on-demand-task-delete

[top]

Delete an On-Demand Task.

Input Name	Range	Type	Description
task-name		string	Name of the task.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	
ERESOURCEINUSE	

vscan-on-demand-task-get-iter

[top]

Returns list of On-Demand Task.

Input Name	Range	Type	Description
desired-attributes		vscan-on-demand-task-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-on-demand-task-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-task object. All vscan-on-demand-task objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-on-demand-task-info[] optional	The list of attributes of vscan-on-demand-task objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-on-demand-task objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

EVSERVERNOTFOUND	

vscan-on-demand-task-modify

[top]

Modify an On-Demand Task.

Input Name	Range	Type	Description
cross-junction		true-false optional	Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true.
directory-recursion		true-false optional	Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true.
file-ext-to-exclude		file-extension[] optional	File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
file-ext-to-include		file-extension[] optional	File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task.
paths-to-exclude		string[] optional	File-paths for which scanning must not be performed.
report-directory		string optional	Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports.
report-expiry-time		time-interval optional	Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0
report-log-level		vscan-od-log-level optional	Log level for the On-Demand report. Default is error. Possible values: • "verbose" - Report file will contain verbose logs for each file found in the scan-path., • "info" - Report file will contain info and error logs., • "error" - Report file will contain only error logs.
request-timeout		time-interval optional	Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout.
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.
scan-paths		string[] optional	List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files.
scan-priority		vscan-scan-priority optional	Priority of the On-Demand scan requests generated by this task. Default is low. Possible values: • "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue., • "normal" - The scan request will be processed normally.

schedule		string optional	Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task.
task-name		string	Name of the task.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	

vscan-on-demand-task-run

[top]

Run an On-Demand task

Input Name	Range	Type	Description
task-name		string	Task Name

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	
ERESOURCEINUSE	

vscan-reset

[top]

Discard cached information of files that have been successfully scanned.

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-resolve-hostnames

[top]

Resolve the hostnames configured in the scanner pool.

Input Name	Range	Type	Description
scanner-pool		scanner-pool	Name of the virus scanner pool.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-scanner-pool-apply-policy

[top]

Apply scanner-policy to a scanner pool.

Input Name	Range	Type	Description
cluster		cluster-name optional	Cluster on Which Policy Is Applied
scanner-policy		scanner-policy	Scanner Policy
scanner-pool		scanner-pool	Name of the virus scanner pool.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	
E_ONLY_SCANNER_POOL_ACTIVE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-scanner-pool-create

[top]

Create a virus scanner pool, which is used for validating and managing connections between clustered Data ONTAP and Vscan servers.

Input Name	Range	Type	Description
hostnames		string[]	List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP.
max-session-setup-retries	[0..2^32-1]	integer optional	Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool.
privileged-users		privileged-user[]	List of privileged users.
			Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the

request-timeout	**[0..2^32-1]**	integer optional	node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool.
return-record		boolean optional	If set to true, returns the vscan-scanner-pool on successful creation. Default: false
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool.
scanner-pool		scanner-pool	Name of the virus scanner pool.
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.

Output Name	Range	Type	Description
result		vscan-scanner-pool-info optional	The vscan-scanner-pool created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_SCANNER_POOL_EXISTS	
E_SCANNER_POOL_CANNOT_CREATE_MAX_LIMIT	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-scanner-pool-delete

[top]

Delete a scanner pool.

Input Name	Range	Type	Description
scanner-pool		scanner-pool	Name of the virus scanner pool.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	
EAPIPRIVILEGE	

E_ONLY_SCANNER_POOL_ACTIVE	
ERESOURCEINUSE	

vscan-scanner-pool-get-iter

[top]

Returns list of scanner pools. Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners).

Input Name	Range	Type	Description
desired-attributes		vscan-scanner-pool-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-scanner-pool-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-scanner-pool object. All vscan-scanner-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-scanner-pool-info[] optional	The list of attributes of vscan-scanner-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-scanner-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	

vscan-scanner-pool-modify

[top]

Modify a scanner pool.

Input Name	Range	Type	Description
hostnames		string[] optional	List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP.
max-			

session-setup-retries	**[0..2^32-1]**	integer optional	Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool.
privileged-users		privileged-user[] optional	List of privileged users.
request-timeout	**[0..2^32-1]**	integer optional	Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool.
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool.
scanner-pool		scanner-pool	Name of the virus scanner pool.
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	
EAPIPRIVILEGE	

vscan-status-get-iter

[top]

Returns Vscan status information.

Input Name	Range	Type	Description
desired-attributes		vscan-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-status object. All vscan-status objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-status-info[] optional	The list of attributes of vscan-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

vscan-status-modify

[top]

Modify Vscan status.

Input Name	Range	Type	Description
is-vscan-enabled		boolean	Vscan status. When true, Vscan feature is enabled for the Vserver.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
ECIFSERVERNOTFOUND	
E_NO_SCANNER_POOL_ACTIVE	
E_VSCAN_CAPABILITY_NOT_ENABLED	
E_VSCAN_JOB_QUEUE_FAILED	
E_VSCAN_JOB_DELETE_FAILED	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **file-extension** [top]

File extension

[none]

Element definition: **file-path** [top]

File path

[none]

Element definition: **policy-name** [top]

Policy name

[none]

Element definition: **privileged-user** [top]

Privileged user

[none]

Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **true-false**

[top]

True/False

[none]

Element definition: **vscan-active-scanner-pool-info**

[top]

Vscan active scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
max-session-setup-retries	**[0..2^32-1]**	integer optional	Maximum number of consecutive session-setup attempts. This is set to the max of max-session-setup-retries of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
privileged-users		privileged-user[] optional	List of privileged users for a vserver. Vscan server is given privileged access to the clustered Data ONTAP only if it uses one of these users. Attributes: non-creatable, non-modifiable
request-timeout	**[0..2^32-1]**	integer optional	Total request-service time-limit in seconds. This is set to the max of the request-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. This is set to the max of the scan-queue-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
scanner-		scanner-	List of active scanner pools on a vserver. Attributes: non-creatable,

pools		pool[] optional	non-modifiable
servers		ip-address[] optional	List of allowed Vscan servers IP for a vserver. A Vscan server is allowed to connect to the clustered Data ONTAP only if its IP is part of this list. Attributes: non-creatable, non-modifiable
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. This is set to the max of the session-setup-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. This is set to the max of the session-teardown-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-connection-extended-stats-info**

[top]

Vscan connection extended statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
extended-stats		string[] optional	Vscanner's extended statistics. Attributes: non-creatable, non-modifiable
node		node-name optional	Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
server		ip-address optional	IP of the Vscan server. Attributes: key, non-creatable, non-modifiable
server-status		vscan-server-status optional	Status of the connection. Attributes: non-creatable, non-modifiable Possible values: • "disconnected" - Disconnected, • "disconnecting" - Disconnecting, • "connecting" - Connecting, • "connected" - Connected
server-type		vscan-scanner-type optional	Server type. Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary, • "backup" - Backup
vendor		string optional	Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable
version		string optional	Version of virus-scanner. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-connection-status-all-info**

[top]

Vscan connection status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connected-since		datetime optional	Time when Vscan server was connected. Attributes: non-creatable, non-modifiable
disconnect-reason		vscan-disconnect-reason optional	Reason for disconnection. Attributes: non-creatable, non-modifiable Possible values: • "na" - Not applicable, • "vscan_disabled" - Vscan disabled on the vserver, • "no_data_lif" - Vserver does not have data lif on the node, • "session_uninitialized" - Session not initialized, • "remote_closed" - Closure from Server, • "invalid_protocol_msg" - Invalid protocol-message received, • "invalid_session_id" - Invalid session-id received, • "inactive_connection" - No activity on connection, • "invalid_user" - Connection request by invalid user, • "server_removed" - Server removed from the active scanner-pool
disconnected-since		datetime optional	Time when Vscan server was disconnected. Attributes: non-creatable, non-modifiable
lif		ip-address optional	IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable
node		node-name optional	Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
privileged-user		string optional	Privileged user, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable
server		ip-address optional	IP of the Vscan server. Attributes: key, non-creatable, non-modifiable
server-status		vscan-server-status optional	Status of the connection. Attributes: non-creatable, non-modifiable Possible values: • "disconnected" - Disconnected, • "disconnecting" - Disconnecting, • "connecting" - Connecting, • "connected" - Connected
server-type		vscan-scanner-type	Server type. Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary,

		optional	• "backup" - Backup
vendor		string optional	Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable
version		string optional	Version of virus-scanner. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-events-info**

[top]

Vscan events information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
consecutive-occurrence-count	**[0..2^32-1]**	integer optional	Consecutive occurrence count of the same event. Attributes: non-creatable, non-modifiable
disconnect-reason		vscan-disconnect-reason optional	Reason for disconnection. This field is applicable only for the scanner-disconnection events. Attributes: non-creatable, non-modifiable Possible values: • "na" - Not applicable, • "vscan_disabled" - Vscan disabled on the vserver, • "no_data_lif" - Vserver does not have data lif on the node, • "session_uninitialized" - Session not initialized, • "remote_closed" - Closure from Server, • "invalid_protocol_msg" - Invalid protocol-message received, • "invalid_session_id" - Invalid session-id received, • "inactive_connection" - No activity on connection, • "invalid_user" - Connection request by invalid user, • "server_removed" - Server removed from the active scanner-pool
event-time		datetime optional	Event log time. Attributes: key, non-creatable, non-modifiable
event-type		vscan-event-type optional	Event type. Attributes: non-creatable, non-modifiable Possible values: • "scanner_connected" - Scanner connected, • "scanner_disconnected" - Scanner disconnected, • "scanner_updated" - Scanner updated, • "scan_internal_error" - Internal error, • "scan_failed" - Scan failed, • "scan_timedout" - Scan timed out, • "file_infected" - File is infected,

			"file_renamed" - File is renamed after found infected, • "file_quarantined" - File is quarantined after found infected, • "file_deleted" - File is deleted after found infected, • "scanner_busy" - Scanner is busy
file-path		string optional	Path of the file which is being scanned. The path gives the client view of the file being scanned. This field is applicable only for the scanning related events. Attributes: non-creatable, non-modifiable
lif		ip-address optional	IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. It could be either IPV4 or IPV6 as configured. Attributes: non-creatable, non-modifiable
node		node-name optional	Node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
scan-engine-status	**[0..2^64-1]**	integer optional	Status code returned by scan-engine. This field is applicable only if scan-engine is capable of responding with extended status. Attributes: non-creatable, non-modifiable
server		ip-address optional	IP of the Vscan server. It could be either IPV4 or IPV6 as configured in the scanner pool. Attributes: non-creatable, non-modifiable
vendor		string optional	Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable
version		string optional	Version of virus-scanner. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

Element definition: **vscan-on-access-policy-info**

[top]

Vscan On-Access policy information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-owner		vscan-config-owner optional	Owner of the policy. Attributes: non-creatable, non-modifiable Possible values: • "vserver" - Vserver Admin, • "cluster" - Cluter Admin
file-ext-to-exclude		file-extension[] optional	File extensions for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable
file-ext-to-include		file-extension[] optional	File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. Attributes: optional-for-create, modifiable
filters		vscan-on-access-policy-ui-filter[] optional	A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Attributes: optional-for-create, modifiable Possible values: • "scan_ro_volume" - Enable scans for read-only volume, • "scan_execute_access" - Scan only files opened with execute-access (CIFS only)
is-policy-enabled		boolean optional	Policy status. Attributes: non-creatable, non-modifiable
is-scan-mandatory		boolean optional	Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable
paths-to-exclude		file-path[] optional	File paths for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, required-for-create, non-modifiable
protocol		vscan-protocol optional	File-Access protocol to monitor for On-Access scanning. Attributes: required-for-create, non-modifiable Possible values: • "cifs" - CIFS Protocol
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-on-access-policy-ui-filter**

[top]

Filters to define the scope of On-Access scanning more precisely. Possible values:

- "scan_ro_volume" - Enable scans for read-only volume,
- "scan_execute_access" - Scan only files opened with execute-access (CIFS only)

[none]

Element definition: **vscan-on-demand-report-info**

[top]

Vscan On-Demand Task Report information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
already-scanned-files	**[0..2^64-1]**	integer optional	Total number of files which were already scanned by a valid virus-scanner. Attributes: non-creatable, non-modifiable
attempted-scans	**[0..2^64-1]**	integer optional	Total number of attempted scans. Attributes: non-creatable, non-modifiable
failed-scans	**[0..2^64-1]**	integer optional	Total number of failed scans. Attributes: non-creatable, non-modifiable
files-cleaned	**[0..2^64-1]**	integer optional	Total number of files that were marked clean by the virus-scanner. Attributes: non-creatable, non-modifiable
files-infected	**[0..2^64-1]**	integer optional	Total number of files that were marked infected by the virus-scanner. Attributes: non-creatable, non-modifiable
internal-error	**[0..2^64-1]**	integer optional	Total number of internal error occured while running the task. Attributes: non-creatable, non-modifiable
job-duration		time-interval optional	Time taken by the job to complete the on-demand task. Attributes: non-creatable, non-modifiable
job-end-time		datetime optional	On-demand task end time. Attributes: non-creatable, non-modifiable
job-id	**[-2^63..2^63-1]**	integer optional	ID of the on-demand scan job. Attributes: non-creatable, non-modifiable
job-start-time		datetime optional	On-demand task start time. Attributes: non-creatable, non-modifiable
report-file		string optional	Path of the report file from root of the Vserver. Attributes: key, non-creatable, non-modifiable
scan-retries	**[0..2^64-1]**	integer optional	Total number of scans that were retried because of internal error. Attributes: non-creatable, non-modifiable
skipped-scans	**[0..2^64-1]**	integer optional	Total number of files which were not scanned because of the configured scope of scanning. Attributes: non-creatable, non-modifiable
successful-scans	**[0..2^64-1]**	integer optional	Total number of files which were successfully scanned. Attributes: non-creatable, non-modifiable
task-name		string optional	Name of the task. Attributes: key, non-creatable, non-modifiable
timedout-scans	**[0..2^64-1]**	integer optional	Total number of scans that were timed out. Attributes: non-creatable, non-modifiable
vserver		string	Vserver Attributes: key, non-creatable, non-modifiable

		optional	

Element definition: **vscan-on-demand-task-info**

[top]

Vscan On-Demand Task information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cross-junction		true-false optional	Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. Attributes: optional-for-create, modifiable
directory-recursion		true-false optional	Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. Attributes: optional-for-create, modifiable
file-ext-to-exclude		file-extension[] optional	File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable
file-ext-to-include		file-extension[] optional	File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. Attributes: optional-for-create, modifiable
paths-to-exclude		string[] optional	File-paths for which scanning must not be performed. Attributes: optional-for-create, modifiable
report-directory		string optional	Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. Attributes: required-for-create, modifiable
report-expiry-time		time-interval optional	Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 Attributes: optional-for-create, modifiable
report-log-level		vscan-od-log-level optional	Log level for the On-Demand report. Default is error. Attributes: optional-for-create, modifiable Possible values: • "verbose" - Report file will contain verbose logs for each file found in the scan-path., • "info" - Report file will contain info and error logs., • "error" - Report file will contain only error logs.
request-timeout		time-interval optional	Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. Attributes: optional-for-create, modifiable

scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable
scan-paths		string[] optional	List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. Attributes: required-for-create, modifiable
scan-priority		vscan-scan-priority optional	Priority of the On-Demand scan requests generated by this task. Default is low. Attributes: optional-for-create, modifiable Possible values: • "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue., • "normal" - The scan request will be processed normally.
schedule		string optional	Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. Attributes: optional-for-create, modifiable
task-name		string optional	Name of the task. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-protocol**

[top]

CIFS Possible values:

- "cifs" - CIFS Protocol

[none]

Element definition: **vscan-scan-priority**

[top]

Priority of the scan request. Possible values:

- "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,
- "normal" - The scan request will be processed normally.

[none]

Element definition: **vscan-scanner-pool-info**

[top]

Vscan scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-owner		vscan-config-owner optional	Owner of the scanner pool. Attributes: non-creatable, non-modifiable Possible values: • "vserver" - Vserver Admin, • "cluster" - Cluter Admin
cluster		cluster-name optional	Name of the cluster on which you want to apply the scanner policy of a scanner pool. Default value is taken as local cluster. This parameter does not have any significance if the cluster is not in a DR relationship. Attributes: non-creatable, non-modifiable
hostnames		string[] optional	List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: required-for-create, modifiable
is-currently-active		boolean optional	Current status of a scanner pool. Attributes: non-creatable, non-modifiable
max-session-setup-retries	**[0..2^32-1]**	integer optional	Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
privileged-users		privileged-user[] optional	List of privileged users. Attributes: required-for-create, modifiable
request-timeout	**[0..2^32-1]**	integer optional	Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
scanner-policy		scanner-policy optional	Scanner policy. Currently only system policies are supported. Possible values: • 'primary' - Makes it active always, • 'secondary' - Makes it active only when no primary Vscan server is connected, • 'idle' - Makes it inactive always Attributes: non-creatable, non-modifiable
scanner-pool		scanner-pool optional	Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners). Attributes: key, required-for-create, non-modifiable

servers		ip-address[] optional	List of IP addresses of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: non-creatable, non-modifiable
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-status-info**

[top]

Vscan status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-vscan-enabled		boolean optional	Vscan status. When true, Vscan feature is enabled for the Vserver. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **file-extension** [top]

File extension

[none]

Element definition: **file-path** [top]

File path

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **policy-name** [top]

Policy name

[none]

Element definition: **privileged-user** [top]

Privileged user

[none]

Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **time-interval** [top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **true-false** [top]

True/False

[none]

Element definition: **vscan-config-owner** [top]

Configuration owner Possible values:

- "vserver" - Vserver Admin,
- "cluster" - Cluter Admin

[none]

Element definition: **vscan-disconnect-reason**

[top]

reason Possible values:

- "na" - Not applicable,
- "vscan_disabled" - Vscan disabled on the vserver,
- "no_data_lif" - Vserver does not have data lif on the node,
- "session_uninitialized" - Session not initialized,
- "remote_closed" - Closure from Server,
- "invalid_protocol_msg" - Invalid protocol-message received,
- "invalid_session_id" - Invalid session-id received,
- "inactive_connection" - No activity on connection,
- "invalid_user" - Connection request by invalid user,
- "server_removed" - Server removed from the active scanner-pool

[none]

Element definition: **vscan-event-type**

[top]

Type of the event generated by the cluster. Possible values:

- "scanner_connected" - Scanner connected,
- "scanner_disconnected" - Scanner disconnected,
- "scanner_updated" - Scanner updated,
- "scan_internal_error" - Internal error,
- "scan_failed" - Scan failed,
- "scan_timedout" - Scan timed out,
- "file_infected" - File is infected,
- "file_renamed" - File is renamed after found infected,
- "file_quarantined" - File is quarantined after found infected,
- "file_deleted" - File is deleted after found infected,
- "scanner_busy" - Scanner is busy

[none]

Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

Element definition: **vscan-scanner-type**

[top]

Server type Possible values:

- "primary" - Primary,
- "backup" - Backup

[none]

Element definition: **vscan-server-status**

[top]

Status Possible values:

- "disconnected" - Disconnected,
- "disconnecting" - Disconnecting,
- "connecting" - Connecting,
- "connected" - Connected

[none]

APIs in Category: **vserver**

vserver-add-aggregates
vserver-add-protocols
vserver-config-diff-get
vserver-config-diff-get-iter
vserver-create
vserver-create-async
vserver-data-policy-export
vserver-data-policy-import
vserver-data-policy-validation-get-error
vserver-destroy
vserver-destroy-async
vserver-get
vserver-get-iter
vserver-http-proxy-create
vserver-http-proxy-delete
vserver-http-proxy-get
vserver-http-proxy-get-iter
vserver-http-proxy-modify
vserver-login-banner-get
vserver-login-banner-get-iter
vserver-login-banner-modify
vserver-login-banner-modify-iter
vserver-modify
vserver-modify-iter
vserver-motd-get
vserver-motd-get-iter
vserver-motd-modify
vserver-motd-modify-iter
vserver-protect-precheck
vserver-protect-precheck-dp-support
vserver-protect-precheck-network
vserver-protect-precheck-vge-support
vserver-remove-aggregates
vserver-remove-protocols
vserver-rename
vserver-rename-async
vserver-san-purge
vserver-san-purge-verify
vserver-show-aggr-get-iter
vserver-start
vserver-stop
vserver-unlock

vserver-add-aggregates

[top]

Add aggregates to the Vserver

Input Name	Range	Type	Description
aggr-list		aggr-name[]	Specifies a list of aggregates to be added to the Vserver. The root aggregates should not be specified in this list because though the command will return success, volumes cannot be created on root aggregates. In a MetroCluster configuration, this command does not honor the remote cluster's aggregates.
vserver-name		string	Specifies the name of the Vserver for which aggregates are to be added.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-add-protocols

[top]

add protocols to the Vserver

Input Name	Range	Type	Description
protocols		protocol[]	Is the list of protocols to be added to the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'.
vserver-name		string	Specifies the name of the Vserver on which the given set of protocols are allowed.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_CANNOT_DELETE_SYNC_DESTINATION_IN_INITIALIZING_STATE	
E_NVMF_REPL_NOT_SUPPORTED	
E_NVMF_EXCLUSIVE_VSERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two Vservers in DR relationship, including MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part

of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-vserver-name		string	Name of destination Vserver
instance	**[0..2^32-1]**	integer optional	The count of object instance
keys		key-value-pair[]	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1
object		string	The Vserver configuration object compared - for example, volume

Output Name	Range	Type	Description
attributes		config-diff-info	The attributes of the vserver.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

vserver-config-diff-get-iter

[top]

Provides the differences in configuration between Vservers in DR relationship, including MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If Vserver is not specified, the differences for all Vservers in the cluster, which are in DR relationship are returned. This API helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		config-diff-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		config-diff-info[] optional	The list of attributes of vserver objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

vserver-create

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To create Vserver use API vserver-create-async. Create a new Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

Input Name	Range	Type	Description
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days)
anti-ransomware-auto-switch-from-learning-to-enabled		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled
anti-ransomware-auto-switch-minimum-file-count	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension
anti-ransomware-auto-switch-minimum-		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB)

incoming-data			
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage)
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
ipspace		string optional	IPspace name. The default value is 'Default'
			This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do

is-repository-vserver		boolean optional	not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster.
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP.
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values: • "file" , • "ldap"
			Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in

name-server-switch		nsswitch[] optional	Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values: • "nis" , • "file" , • "ldap"
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default
return-record		boolean optional	If set to true, returns the vserver on successful creation. Default: false
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name.
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported.
root-volume-security-style		security-style-enum optional	Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name
			Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this

vserver-subtype		string optional	value are: • default • dp_destination • sync_source • sync_destination If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default.

Output Name	Range	Type	Description
result		vserver-info optional	The vserver created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_CREATE_PEERED_VSERVER	
E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS	
EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED	
EIPSPACEDOESNOTEXIST	
EVSERVER_CANNOT_BELONG_TO_IPSPACE	
EVSERVER_NSSWITCH_MANDATORY	
EVSERVER_SYSTEM_VSERVER_EXISTS	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION	
EVSERVER_SUBTYPE_NOT_SUPPORTED	
EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME	
EVSERVER_CREATE_FAIL_AGGR_UNKNOWN	

vserver-create-async

[top]

Create a new Vserver asynchronously. The progress of the operation can be monitored using job-get-iter API. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

Input Name	Range	Type	Description
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days)
anti-ransomware-auto-switch-		boolean	Anti-ransomware Auto-switch from Learning to Enabled

from-learning-to-enabled		optional	
anti-ransomware-auto-switch-minimum-file-count	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB)
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage)
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata,

			randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
ipspace		string optional	IPspace name. The default value is 'Default'
is-repository-vserver		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster.
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP.
			Name Mapping switch configuration details for the Vserver.

name-mapping-switch		nmswitch[] optional	When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values: • "file" , • "ldap"
name-server-switch		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values: • "nis" , • "file" , • "ldap"
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name.
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported.
root-volume-security-style		security-style-enum optional	Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
			Default snapshot policy setting for all volumes of the Vserver.

snapshot-policy		snapshot-policy optional	This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name
vserver-subtype		string optional	Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are: • default • dp_destination • sync_source • sync_destination If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default.

Output Name	Range	Type	Description
result		vserver-info optional	The vserver created (keys or the entire object if requested)
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this vserver.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_CREATE_PEERED_VSERVER	
E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS	
EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED	
EIPSPACEDOESNOTEXIST	
EVSERVER_CANNOT_BELONG_TO_IPSPACE	
EVSERVER_NSSWITCH_MANDATORY	
EVSERVER_SYSTEM_VSERVER_EXISTS	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION	

EVSERVER_SUBTYPE_NOT_SUPPORTED	
EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME	

vserver-data-policy-export

[top]

This API is no longer supported as of ONTAP 9.5.0.

Export a data policy for a Vserver with an Infinite Volume. The data policy is exported as a JSON string. For a description of the JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

Output Name	Range	Type	Description
data-policy-expression		string	Data-policy JSON expression. A JSON string, XML escaped and UTF8 encoded.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	

vserver-data-policy-import

[top]

This API is no longer supported as of ONTAP 9.5.0.

Import a data policy for a Vserver with an Infinite Volume. The data policy is imported as a JSON string. For a description of the required JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

Input Name	Range	Type	Description
data-policy-expression		string	Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs).

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EDATAPOLICY_VALIDATION_ERROR	

vserver-data-policy-validation-get-error

[top]

This API is no longer supported as of ONTAP 9.5.0.

Validate without importing a data policy for a Vserver with an Infinite Volume. The data policy needs to be specified as a JSON string. For a description of the required JSON format, please refer to the

Clustered Data ONTAP Infinite Volumes Management Guide.

Input Name	Range	Type	Description
expression		string	Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs).

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EDATAPOLICY_VALIDATION_ERROR	

vserver-destroy

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To delete Vserver use API vserver-destroy-async. Destroys the Vserver and its objects. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

Input Name	Range	Type	Description
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EVOLEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_DELETE_PEERED_VSERVER	
EVSERVER_CANT_LOOKUP_CIFS_SERVER	
EVSERVER_REMOVE_CIFS_SERVER_WITH_AD	
EVSERVER_CANT_LOOKUP_AD_ACCOUNT	
EVSERVER_CANT_REMOVE_AD_ACCOUNT	
EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER	

vserver-destroy-async

[top]

Destroys the Vserver and its objects asynchronously. The progress of the operation can be monitored using job-get-iter API. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any

volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

Input Name	Range	Type	Description
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EVOLEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_DELETE_PEERED_VSERVER	
EVSERVER_CANT_LOOKUP_CIFS_SERVER	
EVSERVER_REMOVE_CIFS_SERVER_WITH_AD	
EVSERVER_CANT_LOOKUP_AD_ACCOUNT	
EVSERVER_CANT_REMOVE_AD_ACCOUNT	
EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER	

vserver-get

[top]

Get the attributes of the Vserver.

Input Name	Range	Type	Description
desired-attributes		vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		vserver-info	The attributes of the vserver.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-get-iter

[top]

Display information about Vservers. Information about Admin Vserver, Node Vserver, and Cluster Vservers is displayed. If the ZAPI is issued to the Cluster LIF with no Vserver specified as input, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

Input Name	Range	Type	Description
desired-attributes		vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-info[] optional	The list of attributes of vserver objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-http-proxy-create

[top]

Create a new HTTP proxy configuration.

Input Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.
is-auth-		boolean	Specifies whether authentication is required for the HTTP proxy. By

enabled		optional	default it is set to false.
password		string optional	Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled.
port	**[1..65535]**	integer	Specifies the port number on which the HTTP proxy service is configured for the server.
server		string	Specifies the HTTP proxy hostname or IP address.
skip-config-validation		boolean optional	Skip the config validation
username		string optional	Specifies the username to authenticate with the HTTP proxy when authentication is enabled.
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-http-proxy-delete

[top]

Remove the proxy configuration for the specified Vserver.

Input Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-http-proxy-get

[top]

Get the HTTP proxy configuration of the Vserver.

Input Name	Range	Type	Description
desired-attributes		http-proxy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.

Output Name	Range	Type	Description
attributes		http-proxy	The attributes of the http-proxy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-http-proxy-get-iter

[top]

Get the HTTP proxy configuration of the cluster.

Input Name	Range	Type	Description
desired-attributes		http-proxy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		http-proxy optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the http-proxy object. All http-proxy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		http-proxy[] optional	The list of attributes of http-proxy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more http-proxy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-http-proxy-modify

[top]

Modify the proxy configuration for the specified Vserver.

Input Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.
is-auth-		boolean	Specifies whether authentication is required for the HTTP proxy. By

enabled		optional	default it is set to false.
password		string optional	Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled.
port		integer optional	Specifies the port number on which the HTTP proxy service is configured for the server.
server		string optional	Specifies the HTTP proxy hostname or IP address.
skip-config-validation		boolean optional	Skip the config validation
username		string optional	Specifies the username to authenticate with the HTTP proxy when authentication is enabled.
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-login-banner-get

[top]

Return the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default.

Input Name	Range	Type	Description
desired-attributes		vserver-login-banner-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		vserver-login-banner-info	The attributes of the vserver-login-banner.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-login-banner-get-iter

[top]

Return the specified login banner. See the description for the non-iter API for details.

Input Name	Range	Type	Description
desired-attributes		vserver-login-banner-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-login-banner-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-login-banner object. All vserver-login-banner objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-login-banner-info[] optional	The list of attributes of vserver-login-banner objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-login-banner objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-login-banner-modify

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

Input Name	Range	Type	Description
message		string optional	The login banner message. Maximum byte length for modify: 2048.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-login-banner-modify-iter

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple vserver-login-banner objects match a given query. If set to true, the API will continue with the next matching vserver-login-banner even when the operation fails for the vserver-login-banner. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-login-banner even when the operation on a previous matching vserver-login-banner fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of vserver-login-banner objects to be operated in this call. Default: 20
message		string optional	The login banner message. Maximum byte length for modify: 2048.
query		vserver-login-banner-info	If operating on a specific vserver-login-banner, this input element must specify all keys. If operating on vserver-login-banner objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver-login-banner objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-login-banner objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver-login-banner objects (just keys) that were successfully operated on. If set to false, the list of vserver-login-banner objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		vserver-login-banner-modify-iter-info[] optional	Information about vserver-login-banner objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver-login-banner objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of vserver-login-banner objects that matched the query, but were not operated on due some error.

num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver-login-banner objects that matched the query and were successfully processed.
success-list		vserver-login-banner-modify-iter-info[] optional	The vserver-login-banner objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-modify

[top]

Modify the attributes of vserver object.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list.
allowed-protocols		protocol[] optional	Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days)
anti-ransomware-auto-switch-from-		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled

learning-to-enabled			
anti-ransomware-auto-switch-minimum-file-count	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB)
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage)
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.

			• all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
disallowed-protocols		protocol[] optional	Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP.

max-volumes		string optional	Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values: • "file" , • "ldap"
name-server-switch		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values: • "nis" , • "file" , • "ldap"
qos-policy-group		string optional	The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume.
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
			State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a

state		vsadminstate optional	Vserver Possible values: • "running" , • "stopped" , • "starting" , • "stopping" , • "initializing" , • "deleting"
volume-delete-retention-hours	**[0..2^32-1]**	integer optional	The number of hours that a deleted volume should be retained before the delete is completed
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
E_QOS_NO_SUCH_PG	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_VSERVERIZATION_VIOLATION_FOR_VS	

vserver-modify-iter

[top]

Modify the attributes of vserver or a group of vserver objects.

Input Name	Range	Type	Description
attributes		vserver-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple vserver objects match a given query. If set to true, the API will continue modifying the next matching vserver even when modification of a previous vserver fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching vserver even when the modification of a previous matching vserver fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20

query		vserver-info	If modifying a specific vserver, this input element must specify all keys. If modifying vserver objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver objects (just keys) that were not modified due to some error. If set to false, the list of vserver objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver objects (just keys) that were successfully updated. If set to false, the list of vserver objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		vserver-modify-iter-info[] optional	Information about vserver objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of vserver objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver objects that matched the query and were successfully updated.
success-list		vserver-modify-iter-info[] optional	The vserver objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	

vserver-motd-get

[top]

Return the specified message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

Input Name	Range	Type	Description
desired-attributes		vserver-motd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description

attributes		vserver-motd-info	The attributes of the vserver-motd.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-motd-get-iter

[top]

Return the specified message of the day. See the description for the non-iter API for details.

Input Name	Range	Type	Description
desired-attributes		vserver-motd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-motd-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-motd object. All vserver-motd objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-motd-info[] optional	The list of attributes of vserver-motd objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-motd objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-motd-modify

[top]

Modify the message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

Input Name	Range	Type	Description

is-cluster-message-enabled		boolean optional	Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver).
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-motd-modify-iter

[top]

Modify the message of the day. See the description of the non-iter API for more information.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple vserver-motd objects match a given query. If set to true, the API will continue with the next matching vserver-motd even when the operation fails for the vserver-motd. If set to false, the API will return on the first failure. Default: false
is-cluster-message-enabled		boolean optional	Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver).
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-motd even when the operation on a previous matching vserver-motd fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of vserver-motd objects to be operated in this call. Default: 20
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF.
query		vserver-motd-info	If operating on a specific vserver-motd, this input element must specify all keys. If operating on vserver-motd objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver-motd objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-motd objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver-motd objects (just keys) that were successfully operated on. If set to false, the list of vserver-motd objects operated on will not be returned. Default: true

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		vserver-motd-modify-iter-info[] optional	Information about vserver-motd objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver-motd objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of vserver-motd objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver-motd objects that matched the query and were successfully processed.
success-list		vserver-motd-modify-iter-info[] optional	The vserver-motd objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED	

vserver-protect-precheck

[top]

Check source vserver for creating svmdr Relationship

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.
vserver-name		string	Vserver
vserver-uuid		uuid	Vserver UUID

Output Name	Range	Type	Description
precheck-success		boolean	was the precheck successful
svmdr-precheck-error-codes	**[0..2^32-1]**	integer[]	Validation Error Codes

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
E_VSERVERDR_PRECHECK_FAILURE_ERROR	

vserver-protect-precheck-dp-support

[top]

Check source cluster for creating svmdr Relationship of type DP

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.

Output Name	Range	Type	Description
is-enabled		boolean	was the precheck successful

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0	

vserver-protect-precheck-network

[top]

Check source vserver lif placement for creating svmdr Relationship

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.
ipspace		string	IPsapce of the destination vserver
peer-cluster-uuid		uuid	Peer cluster UUID
vserver-name		string	Vserver
vserver-uuid		uuid	Vserver UUID

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
E_VSERVERDR_NETWORK_PRECHECK_ERROR	
E_VSERVERDR_NETWORK_PRECHECK_FAILURE_ERROR	
E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0	

vserver-protect-precheck-vge-support

[top]

Check source cluster for creating svmdr Relationship of type DP

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.

Output Name	Range	Type	Description
is-enabled		boolean	was the precheck successful

Errno	Description
EINTERNALERROR	

vserver-remove-aggregates

[top]

Remove aggregates from the Vserver

Input Name	Range	Type	Description
aggr-list		aggr-name[]	Specifies a list of aggregates to be removed from Vserver.
vserver-name		string	Specifies the name of the Vserver from which aggregates are to be removed.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-remove-protocols

[top]

remove protocols from the Vserver

Input Name	Range	Type	Description
protocols		protocol[]	Is the list of protocols to be removed from the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'.
vserver-name		string	Specifies the name of the Vserver on which the given set of protocols are not allowed.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-rename

[top]

Rename a Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for

the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver.

Input Name	Range	Type	Description
new-name		string	New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com)
vserver-name		string	Vserver

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_RENAME_PEERED_VSERVER	
EOPNOTSUPPORTED	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_RENAME_FAILED	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE	
EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER	
EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED	
EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL	
E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED	
E_DUPLICATE_PEER_VSERVER_NAME_FILER	

vserver-rename-async

[top]

Rename a Vserver asynchronously. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver. A job will be spawned to operate on the vserver and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
new-name		string	New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com)
vserver-name		string	Vserver

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.

result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_RENAME_PEERED_VSERVER	
EOPNOTSUPPORTED	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_RENAME_FAILED	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE	
EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER	
EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED	
EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL	
E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED	
E_DUPLICATE_PEER_VSERVER_NAME_FILER	

vserver-san-purge

[top]

Purge SAN kernel cache for a Vserver. In Metrocluster configuration, if metrocluster switchback fails to clear the SAN kernel cache, the zapi can be issued to clear the SAN kernel cache.

Errno	Description
EINTERNALERROR	

vserver-san-purge-verify

[top]

Verify the SAN Kernel Agent on all nodes is unloaded for the specified Vserver.

Output Name	Range	Type	Description
status		boolean	SAN Kernel Agent for the Vserver is unloaded or not

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-show-aggr-get-iter

[top]

Display list of aggregates owned by Vservers.

Input Name	Range	Type	Description
desired-attributes		show-aggregates optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		show-aggregates optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver show-aggregates object. All vserver show-aggregates objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
vserver		string optional	Vserver

Output Name	Range	Type	Description
attributes-list		show-aggregates[] optional	The list of attributes of vserver show-aggregates objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver show-aggregates objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

vserver-start

[top]

Start a Vserver

Input Name	Range	Type	Description
force		boolean optional	In case of a MetroCluster configuration or Vserver disaster recovery, by using this parameter you can start a Vserver when it is locked (which prevents any configuration changes) or when its partner Vserver is operationally running. The default value for this parameter is false.
vserver-name		string	Specifies the name of the Vserver to be started.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	

EOPNOTSUPPORTED	
EVSERVERALREADYSTARTED	
EINVALIDINPUTERROR	
EVSERVERNOTOPERATIONAL	
E_SAN_NOT_READY	

vserver-stop

[top]

Stop a Vserver

Input Name	Range	Type	Description
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVERNOTRUNNING	
EINVALIDINPUTERROR	
EVSERVERNOTOPERATIONAL	
E_SAN_NOT_READY	

vserver-unlock

[top]

Revoke the administrative lock on the Vserver configuration. When a Vserver is unlocked, configuration changes are permitted. A failure is returned if the Vserver is not locked by the administrator or if it is locked by internal applications. If the vserver lock remains due to an error condition, it can be forcefully removed by specifying the force option.

Input Name	Range	Type	Description
force		boolean optional	Force unlock the Vserver which got locked as part of a DR event or an error condition. The default value for this parameter is false.
vserver-name		string	Specifies the name of the Vserver to be unlocked.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_INTERNAL_CONFIG_LOCK	
EVSERVER_ALREADY_UNLOCKED	

EVSERVER_OPERATION_SUPPORTED_ON_ADMIN_AND_DATA_TYPE_VSERVER

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

Element definition: **config-diff-info**

[top]

Difference in configuration of an object instance. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attribute-diff-list		attribute-info[] optional	The list of attributes that differ
destination-vserver-name		string optional	Name of destination Vserver Attributes: key, non-creatable, non-modifiable
destination-vserver-uuid		uuid optional	External UUID of destination Vserver Attributes: non-creatable, non-modifiable
instance	**[0..2^32-1]**	integer optional	The count of object instance Attributes: key, non-creatable, non-modifiable
keys		key-value-pair[] optional	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable
object		string optional	The Vserver configuration object compared - for example, volume Attributes: key, non-creatable, non-modifiable
skip-excluded-fields		boolean optional	Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable

source-vserver-name		string optional	Name of source Vserver Attributes: non-creatable, non-modifiable
source-vserver-uuid		uuid optional	External UUID of source Vserver Attributes: non-creatable, non-modifiable

Element definition: **http-proxy**

[top]

HTTP Proxy Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. Attributes: optional-for-create, modifiable
is-auth-enabled		boolean optional	Specifies whether authentication is required for the HTTP proxy. By default it is set to false. Attributes: required-for-create, modifiable
password		string optional	Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable
port	**[1..65535]**	integer optional	Specifies the port number on which the HTTP proxy service is configured for the server. Attributes: required-for-create, modifiable
server		string optional	Specifies the HTTP proxy hostname or IP address. Attributes: required-for-create, modifiable
username		string optional	Specifies the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. Attributes: key, non-creatable, non-modifiable

Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **show-aggregates**

[top]

Show aggregates of the Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate-name		aggr-name optional	Aggregate Attributes: key, non-creatable, non-modifiable
aggregate-type		aggregatetype optional	Aggregate Type Attributes: non-creatable, non-modifiable Possible values: • "hdd" - Aggregate consists of only HDDs, • "hybrid" - Aggregate consists of both HDDs and SSDs, • "lun" - Aggregate consists of array LUNs, • "ssd" - Aggregate consists of only SSDs, • "vmdisk" - Aggregate consists of only VMDISKs, • "vmlun" - Aggregate consists of only VMLUNs, • "vmlunssd" - Aggregate consists of only VMLUNs of type SSD
available-size		size optional	Available Size Attributes: non-creatable, non-modifiable
is-nve-capable		boolean optional	Is NVE Capable Attributes: non-creatable, non-modifiable
snaplock-type		snaplocktype optional	Snaplock Type Attributes: non-creatable, non-modifiable Possible values: • "non_snaplock" - Non SnapLock, • "compliance" - SnapLock Compliance, • "enterprise" - SnapLock Enterprise
vserver-name		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

Element definition: **vserver-info**

[top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable
allowed-protocols		protocol[] optional	Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-from-learning-to-enabled		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count Attributes: optional-for-create, modifiable

file-count			
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period Attributes: optional-for-create, modifiable
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written

			user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto. Attributes: optional-for-create, modifiable
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, modifiable
disallowed-protocols		protocol[] optional	Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
ipspace		string optional	IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable
is-config-locked-for-changes		boolean optional	Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable
is-repository-vserver		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create Attributes: optional-for-create, modifiable
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create Attributes: optional-for-create, modifiable
is-vserver-protected		boolean optional	Vserver protection Attributes: non-creatable, non-modifiable

language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable
ldap-domain		string optional	LDAP client configuration details. Attributes: non-creatable, non-modifiable
max-volumes		string optional	Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values: • "file" , • "ldap"
name-server-switch		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values:

			• "nis" , • "file" , • "ldap"
nis-domain		nis-domain optional	NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable
operational-state		vsoperstate optional	Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values: • "running" , • "stopped"
operational-state-stopped-reason		vsopstopreason optional	Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values: • "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done, • "cluster_reboot_done" - Cluster reboot is done, • "admin_state_stopped" - Admin state is stopped, • "dp_destination_not_started" - Vserver configured as destination of Vserver DR
qos-policy-group		string optional	The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. Attributes: optional-for-create, non-modifiable
			Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values:

root-volume-security-style		security-style-enum optional	'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
state		vsadminstate optional	State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values: • "running" , • "stopped" , • "starting" , • "stopping" , • "initializing" , • "deleting"
uuid		uuid optional	Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable
volume-delete-retention-hours	**[0..2^32-1]**	integer optional	The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable
vserver-aggr-info-list		vserver-aggr-info[] optional	List of aggregates assigned to the Vserver with aggregate name and available size.
vserver-name		string optional	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable
vserver-subtype		string optional	Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are: • default • dp_destination • sync_source • sync_destination If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination

			cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable
vserver-type		string optional	Type of the Vserver. Possible values: • data: the default scale-out vserver • admin: for the cluster-wide management Vserver • system: for cluster-scoped communications in an IPspace • node: identifies the physical controller. Attributes: non-creatable, non-modifiable

Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
message		string optional	The login banner message. Maximum byte length for modify: 2048. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-login-banner-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-login-banner object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
vserver-login-banner-key		vserver-login-banner-info	The keys for the vserver-login-banner object to which the operation applies.

Element definition: **vserver-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against vserver object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
vserver-key		vserver-info	The keys for the vserver object to which the modify operation applies.

Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-cluster-message-enabled		boolean optional	Is the display of the cluster message of the day (MOTD) enabled for this Vserver? Attributes: required-for-create, modifiable
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-motd-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-motd object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
vserver-motd-key		vserver-motd-info	The keys for the vserver-motd object to which the operation applies.

Element definition: **vserverid**

[top]

Vserver Id

[none]

Element definition: **aggr-name** [top]

Name of the aggregate

[none]

Element definition: **aggregatetype** [top]

hdd | hybrid | lun | ssd | vmdisk Possible values:

- "hdd" - Aggregate consists of only HDDs,
- "hybrid" - Aggregate consists of both HDDs and SSDs,
- "lun" - Aggregate consists of array LUNs,
- "ssd" - Aggregate consists of only SSDs,
- "vmdisk" - Aggregate consists of only VMDISKs,
- "vmlun" - Aggregate consists of only VMLUNs,
- "vmlunssd" - Aggregate consists of only VMLUNs of type SSD

[none]

Element definition: **antivirus-policy** [top]

Antivirus policy name

[none]

Element definition: **attribute-info** [top]

The name of attribute and its values at source and destination

Name	Range	Type	Description
attribute		string optional	Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable
destination-vserver-value		string optional	Value of the configuration attribute at destination Vserver Attributes: non-creatable, non-modifiable
source-vserver-value		string optional	Value of the configuration attribute at source Vserver Attributes: non-creatable, non-modifiable

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **nis-domain**

[top]

NIS Domain

[none]

Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

Element definition: **vserver-aggr-info**

[top]

Assigned aggregate name and available size.

Name	Range	Type	Description
aggr-availsize		size optional	Assigned aggregate available size. Attributes: non-creatable, non-modifiable
aggr-is-cft-precommit		boolean optional	Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable
aggr-name		aggr-name optional	Assigned aggregate name. Attributes: non-creatable, modifiable

Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

Element definition: **vserver-info**

[top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable
allowed-protocols		protocol[] optional	Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-from-learning-to-enabled		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-	**[0..2^32-**	integer	Anti-ransomware Auto-switch Minimum File Count

minimum-file-count	**1]**	optional	Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period Attributes: optional-for-create, modifiable
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata,

			randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto. Attributes: optional-for-create, modifiable
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, modifiable
disallowed-protocols		protocol[] optional	Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
ipspace		string optional	IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable
is-config-locked-for-changes		boolean optional	Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable
is-repository-vserver		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create Attributes: optional-for-create, modifiable
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create Attributes: optional-for-create, modifiable
is-vserver-		boolean	Vserver protection Attributes: non-creatable, non-modifiable

protected		optional	
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable
ldap-domain		string optional	LDAP client configuration details. Attributes: non-creatable, non-modifiable
max-volumes		string optional	Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values: • "file" , • "ldap"
name-server-		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to

switch			fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values: • "nis" , • "file" , • "ldap"
nis-domain		nis-domain optional	NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable
operational-state		vsoperstate optional	Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values: • "running" , • "stopped"
operational-state-stopped-reason		vsopstopreason optional	Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values: • "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done, • "cluster_reboot_done" - Cluster reboot is done, • "admin_state_stopped" - Admin state is stopped, • "dp_destination_not_started" - Vserver configured as destination of Vserver DR
qos-policy-group		string optional	The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. Attributes: optional-for-create, non-modifiable
			Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-

root-volume-security-style		security-style-enum optional	create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
state		vsadminstate optional	State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values: • "running" , • "stopped" , • "starting" , • "stopping" , • "initializing" , • "deleting"
uuid		uuid optional	Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable
volume-delete-retention-hours	**[0..2^32-1]**	integer optional	The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable
vserver-aggr-info-list		vserver-aggr-info[] optional	List of aggregates assigned to the Vserver with aggregate name and available size.
vserver-name		string optional	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable
vserver-		string	Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are: • default • dp_destination • sync_source • sync_destination

subtype		optional	If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable
vserver-type		string optional	Type of the Vserver. Possible values: • data: the default scale-out vserver • admin: for the cluster-wide management Vserver • system: for cluster-scoped communications in an IPspace • node: identifies the physical controller. Attributes: non-creatable, non-modifiable

Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
message		string optional	The login banner message. Maximum byte length for modify: 2048. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-cluster-		boolean	Is the display of the cluster message of the day (MOTD) enabled for this

message-enabled		optional	Vserver? Attributes: required-for-create, modifiable
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vsoperstate**

[top]

running|stopped Possible values:

- "running" ,
- "stopped"

[none]

Element definition: **vsopstopreason**

[top]

sync destination and switchover is not done|cluster reboot is done|admin state stopped| dp destination not started Possible values:

- "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,
- "cluster_reboot_done" - Cluster reboot is done,
- "admin_state_stopped" - Admin state is stopped,
- "dp_destination_not_started" - Vserver configured as destination of Vserver DR

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **nis-domain**

[top]

NIS Domain

[none]

Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snapshot-policy** [top]

Snapshot Policy

[none]

Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name** [top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vsadminstate** [top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

Element definition: **vserver-aggr-info**

[top]

Assigned aggregate name and available size.

Name	Range	Type	Description
aggr-availsize		size optional	Assigned aggregate available size. Attributes: non-creatable, non-modifiable
aggr-is-cft-precommit		boolean optional	Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable
aggr-name		aggr-name optional	Assigned aggregate name. Attributes: non-creatable, modifiable

Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

APIs in Category: **vserver-peer**

vserver-peer-accept
vserver-peer-create
vserver-peer-delete
vserver-peer-get
vserver-peer-get-iter
vserver-peer-modify
vserver-peer-modify-local-name
vserver-peer-permission-create
vserver-peer-permission-delete
vserver-peer-permission-get
vserver-peer-permission-get-iter
vserver-peer-permission-modify
vserver-peer-reject
vserver-peer-repair-peer-name
vserver-peer-resume
vserver-peer-suspend

Vserver peering provides a mechanism to setup relationships between two Vservers. Relationship thus created can be used by cluster administrator to setup application (SnapMirror) relationships or delegate these to Vserver administrator. This set of APIs allow to create and manage Vserver peer relationships.

vserver-peer-accept

[top]

Accept a pending Vserver peer relationship

Input Name	Range	Type	Description
local-name		string optional	Specifies local name of the peer Vserver in the relationship.
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCALVSERVER_PEERING_NOT_EXISTS	
E_PEERVSERVER_PEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_INVALID_OPERATION_INTRA_CLUSTER	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	

E_JOB_EXISTS	
E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS	
E_VSERVERPEER_UNIQUE_ACCEPT_ALTERNATE_NAME_OPTION	
E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED	
E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS	

vserver-peer-create

[top]

Create a new Vserver peer relationship between two existing Vservers

Input Name	Range	Type	Description
applications		vserver-peer-application[]	Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'.
local-name		string optional	Specifies local name of the peer Vserver in the relationship.
peer-cluster		string optional	Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster.
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_EXISTS	
E_PEER_VSERVERPEERING_EXISTS	
EINVALIDINPUTERROR	
ENOTCLUSTERED	
E_PEERVSERVER_NAME_EXISTS	
EINTERNALERROR	
E_PEERVSERVER_SAME_LOCALVSERVER	
E_ECANNOT_PEER_WITH_SAME_VSERVER	
E_PEER_CLUSTER_NOT_VALID	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_PEER_VSERVER_NOT_RUNNING_OR_STOPPED	
E_DUPLICATE_PEER_VSERVER_NAME_VSERVER	
E_DUPLICATE_PEER_VSERVER_NAME_FILER	
E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_VSERVER	
E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_FILER	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	
E_CANT_PEER_FLEXVOL_VSERVER_WITH_INFINITEVOL_VSERVER	
E_JOB_EXISTS	
EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED	
EVSERVERPEER_CANNOT_SPECIFY_SYNC_DEST_VSERVER	
E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED	
E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY	
E_VSERVERPEER_UNIQUE_ALTERNATE_NAME_OPTION	

E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS	
E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED	
E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS	
E_VSERVERPEER_UNIQUE_LOCAL_NAME_INTRA_INVALID	
E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH	
E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER	
E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER	

vserver-peer-delete

[top]

Delete a Vserver peer relationship

Input Name	Range	Type	Description
force		boolean optional	Force Delete
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEERVSERVER_PEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEERVSERVERPEERINGS_TATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_PEER_RELATIONSHIP_IN_USE	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION	
E_JOB_EXISTS	
EVSERVERPEER_RELATIONSHIP_CREATION_IN_PROGRESS	
E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE	

vserver-peer-get

[top]

Display information about Vserver peer relationships. Displays the local Vserver, peer Vserver, applications, remote Vserver name and the state of the peering relationship.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-vserver		string	Specifies name of the peer Vserver in the relationship

Output Name	Range	Type	Description
attributes		vserver-peer-info	The attributes of the vserver-peer.

Errno	Description
EVSERVERNOTFOUND	
EPEERVSERVERNOTFOUND	
EINTERNALERROR	

vserver-peer-get-iter

[top]

Display information about Vserver peer relationships. If the API is issued to the Cluster LIF, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-peer-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer object. All vserver-peer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-peer-info[] optional	The list of attributes of vserver-peer objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-peer objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
EINTERNALERROR	

vserver-peer-modify

[top]

Modify a Vserver peer relationship

Input Name	Range	Type	Description
applications		vserver-peer-application[]	Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'.
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_VSERVERPEER_MODIFY_OP_NOT_ALLOWED	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	
E_JOB_EXISTS	
EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED	
E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED	
E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY	
E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH	
E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER	
E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER	
E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE	

vserver-peer-modify-local-name

[top]

Modify the local name for a peer Vserver.

Input Name	Range	Type	Description
new-name		string	Remote Peer Vserver Local Name
peer-cluster		string	Peer Cluster
peer-vserver		string	Remote Peer Vserver

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVER_CANT_END_WITH_MC	
EINVALIDINPUTERROR	
E_INVALID_OPERATION_INTRA_CLUSTER	

E_VSERVERPEER_UNIQUE_CANT_USE_SAME_NAME	
E_VSERVERPEER_UNIQUE_CANT_RENAME_NAME_CONFLICT	
E_VSERVERPEER_UNIQUE_FAILED_TO_RENAME_PEERVSERVER	

vserver-peer-permission-create

[top]

Create a new Vserver peer permission. Allow cluster admin to configure list of permitted clusters/Vservers/applications for intercluster Vserver peer relationship creation. Once configured no explicit Vserver peer accept required for any incoming Vserver peer request from remote cluster

Input Name	Range	Type	Description
applications		vserver-peer-permission-application[]	Peering Applications Possible values: • "snapmirror" - SnapMirror, • "flexcache" - FlexCache
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS	
E_VSERVERPEER_IPSPACE_MISMATCH	
E_VSERVERPEER_VPP_ECV_BELOW_9_2_0	

vserver-peer-permission-delete

[top]

Delete a Vserver peer permission

Input Name	Range	Type	Description
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Errno	Description
E_VSERVERPEER_VPP_VP_PERMISSION_NOT_EXISTS	
E_VSERVERPEER_VPP_VSERVER_NOT_EXISTS	

vserver-peer-permission-get

[top]

Gets a Vserver peer permission

Input Name	Range	Type	Description
desired-attributes		vserver-peer-permission-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Output Name	Range	Type	Description
attributes		vserver-peer-permission-info	The attributes of the vserver-peer-permission.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-peer-permission-get-iter

[top]

Gets list of Vserver peer permission

Input Name	Range	Type	Description
desired-attributes		vserver-peer-permission-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-peer-permission-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-permission object. All vserver-peer-permission objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-peer-permission-info[]	The list of attributes of vserver-peer-permission objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-peer-permission objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-peer-permission-modify

[top]

Modify the existing Vserver peer permission

Input Name	Range	Type	Description
applications		vserver-peer-permission-application[]	Peering Applications Possible values: • "snapmirror" - SnapMirror, • "flexcache" - FlexCache
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS	
E_VSERVERPEER_VPP_ECV_BELOW_9_5_0	

vserver-peer-reject

[top]

Reject a Vserver peer relationship

Input Name	Range	Type	Description
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	

E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_INVALID_OPERATION_INTRA_CLUSTER	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	
E_JOB_EXISTS	

vserver-peer-repair-peer-name

[top]

Fix Peer Vserver name in the remote Vserver peer tables

Input Name	Range	Type	Description
vserver-name		string	vserver

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED	

vserver-peer-resume

[top]

Resume a Vserver peer relationship

Input Name	Range	Type	Description
force		boolean optional	Force Resume
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION	
E_JOB_EXISTS	

vserver-peer-suspend

[top]

Suspend a Vserver peer relationship

Input Name	Range	Type	Description
force		boolean optional	Force Suspend
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION	
E_JOB_EXISTS	

Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

Element definition: **vserver-peer-info**

[top]

Contains information about the Vserver peer relationship(s). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
applications		vserver-peer-application[] optional	Applications which can make use of the peering relationship. Attributes: non-creatable, non-modifiable Possible values: • "snapmirror" - SnapMirror, • "file_copy" - FileCopy, • "lun_copy" - LunCopy, • "flexcache" - FlexCache
peer-cluster		string optional	Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster. This value is not shown and cannot be set in desired-attributes when the API is issued on Vserver LIF. Attributes: non-creatable, non-modifiable
peer-state		vserver-peer-state optional	State of the Vserver peer relationship Attributes: non-creatable, non-modifiable Possible values: • "peered" - Vserver peer relationship is established and the applications can use peer relationship, • "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request, • "initializing" - Communicating to the peer cluster for initializing the peer relationship, • "initiated" - Relationship initiated in local cluster, • "rejected" - Relationship initiated and peer cluster rejected the same, • "suspended" - Relationship suspended, should not initiate any data transfers , • "deleted" - Relationship got deleted on peer cluster
peer-vserver		string optional	Specifies name of the peer Vserver in the relationship Attributes: key, non-creatable, non-modifiable
peer-vserver-uuid		uuid optional	Specifies uuid of the peer Vserver in the relationship. Attributes: non-creatable, non-modifiable
remote-vserver-name		string optional	Specifies remote name of the peer Vserver in the relationship Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies name of the local Vserver in the relationship Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Specifies uuid of the local Vserver in the relationship. Attributes: non-creatable, non-modifiable

Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

[top]

Element definition: **vserver-peer-permission-info**

Information about the Vserver peer permission. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
applications		vserver-peer-permission-application[] optional	Applications which can make use of the intercluster Vserver peer relationship. Attributes: non-creatable, non-modifiable Possible values: • "snapmirror" - SnapMirror, • "flexcache" - FlexCache
peer-cluster		string optional	Specifies name of the peer Cluster. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

Element definition: **vserver-peer-state**

[top]

peered|pending|initializing|initiated|rejected|suspended|deleted Possible values:

- "peered" - Vserver peer relationship is established and the applications can use peer relationship,
- "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request,
- "initializing" - Communicating to the peer cluster for initializing the peer relationship,
- "initiated" - Relationship initiated in local cluster,
- "rejected" - Relationship initiated and peer cluster rejected the same,
- "suspended" - Relationship suspended, should not initiate any data transfers ,
- "deleted" - Relationship got deleted on peer cluster

[none]

APIs in Category: **vserver-peer-transition**

vserver-peer-transition-create
vserver-peer-transition-destroy
vserver-peer-transition-destroy-iter
vserver-peer-transition-get
vserver-peer-transition-get-iter
vserver-peer-transition-modify

transition peer provides mechanism to setup relationships between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver. This relationship can be used by Cluster Admin to setup Snapmirror transition relationships or delegating these to Vserver Admin. These set of ZAPIs allow either to create or manage transition peer relationships.

vserver-peer-transition-create

[top]

Create a new transition peer relationship between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver

Input Name	Range	Type	Description
local-lifs		lif-name[] optional	List of Local LIFs
local-vserver		vserver-name	Local Vserver name
multi-path-address		string optional	Additional address for source 7-Mode system
return-record		boolean optional	If set to true, returns the vserver-peer-transition on successful creation. Default: false
src-filer-name		string	Source 7-Mode system

Output Name	Range	Type	Description
result		vserver-peer-transition-info optional	The vserver-peer-transition created (keys or the entire object if requested)

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_DUPLICATE_PEER_VSERVER_NAME_VSERVER	
E_PEERVSERVER_SAME_LOCALVSERVER	
E_LIF_NOT_FOUND	
E_LIF_NOT_OWNED_BY_VSERVER	

vserver-peer-transition-destroy

[top]

Deletes a transition peer relationship

Input Name	Range	Type	Description
local-vserver		vserver-name	Local Vserver name
src-filer-name		string	Source 7-Mode system

Errno	Description
E_PEER_RELATIONSHIP_IN_USE	

vserver-peer-transition-destroy-iter

[top]

Deletes multiple transition peer relationship

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple vserver-peer-transition objects match a given query. If set to true, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous vserver-peer-transition fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous matching vserver-peer-transition fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of vserver-peer-transition objects to delete in this call. Default: 20
query		vserver-peer-transition-info	If deleting a specific vserver-peer-transition, this input element must specify all keys. If deleting multiple vserver-peer-transition objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were not deleted due to some error. If set to false, the list of vserver-peer-transition objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were successfully deleted. If set to false, the list of vserver-peer-transition objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
		vserver-	

failure-list		peer-transition-destroy-iter-info[] optional	Information about vserver-peer-transition objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver-peer-transition objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of vserver-peer-transition objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver-peer-transition objects that matched the query and were successfully deleted.
success-list		vserver-peer-transition-destroy-iter-info[] optional	The vserver-peer-transition objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
E_PEER_RELATIONSHIP_IN_USE	

vserver-peer-transition-get

[top]

Gets a transition peer relationship.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-transition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
local-vserver		vserver-name	Local Vserver name
src-filer-name		string	Source 7-Mode system

Output Name	Range	Type	Description
attributes		vserver-peer-transition-info	The attributes of the vserver-peer-transition.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-peer-transition-get-iter

[top]

Gets list of transition peer relationship.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-transition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-peer-transition-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-transition object. All vserver-peer-transition objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-peer-transition-info[] optional	The list of attributes of vserver-peer-transition objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-peer-transition objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-peer-transition-modify

[top]

Modifies a transition peer relationship

Input Name	Range	Type	Description
local-lifs		lif-name[] optional	List of Local LIFs
local-vserver		vserver-name	Local Vserver name
multi-path-address		string optional	Additional address for source 7-Mode system
src-filer-name		string	Source 7-Mode system

Errno	Description
E_LIF_NOT_FOUND	
E_LIF_NOT_OWNED_BY_VSERVER	

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **vserver-peer-transition-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against vserver-peer-transition object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
vserver-peer-transition-key		vserver-peer-transition-info	The keys for the vserver-peer-transition object to which the deletion applies.

Element definition: **vserver-peer-transition-info**

[top]

Information about the transition peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
local-lifs		lif-name[] optional	List of Local LIFs Attributes: optional-for-create, modifiable
local-vserver		vserver-name optional	Local Vserver name Attributes: key, required-for-create, non-modifiable
multi-path-		string	Additional address for source 7-Mode system Attributes: optional-

address		optional	for-create, modifiable
src-filer-name		string optional	Source 7-Mode system Attributes: key, required-for-create, non-modifiable

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **wafl**

wafl-get-sync-status
wafl-sync

wafl-get-sync-status

[top]

Returns the status of the previously issued asynchronous Consistency Point operations.

Input Name	Range	Type	Description
sync-handle		wafl-sync-handle	Handle representing a previously issued wafl-sync operation.

Output Name	Range	Type	Description
status		string optional	Status information about the previous CP request on volume. Possible values: • "failed", • "in_progress", • "succeeded".

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

wafl-sync

[top]

Forces a WAFL consistency point (CP) in order to reduce the time for succeeding fence and snapshot related operations. In Data ONTAP 7-Mode this call is synchronous and will not return until the CP has completed. In Data ONTAP Cluster-Mode this API is asynchronous and will return immediately as soon as the CP is scheduled. The wafl-get-sync-status API can be used to check status of the previously scheduled CP. Two uses of this API are

- to predict how fast a successive consistency group based operation will finish,
- to improve performance of succeeding consistency group primitives.

Input Name	Range	Type	Description
volume-uuids		uuid[] optional	A list of volume UUIDs in this filer to take a CP on.
volumes		volume-name[] optional	A list of volume names to take a CP on. In Data ONTAP 7-Mode, the CP operation will be performed on all the volumes on the controller if no volumes are specified. In Data ONTAP Cluster-Mode, "volumes" is a required input and all specified volumes must belong to the same Vserver. If an error is encountered when processing the sync request

			for a volume, the operation is aborted and sync operation will not be performed on the rest of the volumes specified.

Output Name	Range	Type	Description
handles		wafl-sync-handle[] optional	List of handles to be used to query the sync status using 'wafl-get-sync-status' ZAPI.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **wafl-sync-handle**

[top]

Handle representing a specific wafl-sync operation on a volume.

Name	Range	Type	Description
handle	**[0..2^32-1]**	integer	Opaque handle that represents a specific wafl-sync operation.
volume		volume-name optional	Volume name on which wafl-sync operation being performed.
volume-uuid		uuid optional	Volume UUID on which wafl-sync operation being performed.

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

ONTAPI Categories

The links below will take you to the documentation for individual API's in each of the categories.

active-directory	Active Directory configuration and management
aggr	Aggregate information and management
audit	Cluster Administrative Audit APIs
autosupport	AutoSupport ZAPIs
cf	cluster-failover operations
cg	consistency group management
cifs	CIFS configuration and management
clock	System timezone and date management
clone	Manages file and sub-file cloning operation.
cluster	Cluster Management APIs
cluster-image	Automated nondisruptive update APIs
cluster-peer	Manages cluster peer relationships.
cluster-switch	Ethernet Switch Information Zapi
config-backup	Configuration Backup Management
coredump	coredump operations
dashboard	This command is removed starting from ONTAP 9.0
diagnosis	Diagnosis zapis
disk	disk-related operations
disk-encrypt	Self-Encrypting Disk ZAPIs
ems	ems APIs
environment	Environment management
exports	Export Ruleset ZAPIs
fc	fibre channel adapter configuration
fcp	fibre channel protocol management
fcport	Fibre Channel port operations that manage the Fibre Channel
feature	feature management
file	supports file system operations
file-directory-security	view/set file/directory security information
fileservice-audit	FileService audit config ZAPIs
flash	Flash Management Module APIs
flash-device	Flash Cache Zapis
flexcache	FlexCache configuration and management.
fpolicy	file policy management and configuration
gpo	Group Policy Object(GPO) ZAPIs
group-mapping	Group Mapping management APIs
ha-interconnect	High-Availability Interconnect Zapis

igroup	initiator group operations
iscsi	iscsi management and monitoring
job	Contains APIs to manage jobs, their schedules and low-level
kerberos	Kerberos configuration and management APIs.
ldap	LDAP configuration and management APIs
license-v2	Manage Data ONTAP licenses.
lock	Lock Information and Management
lun	Manages and monitors LUNs.
metrocluster	
metrocluster-check-connection	MetroCluster check connection APIs
metrocluster-configuration-settings	MetroCluster configuration settings APIs
metrocluster-connection	MetroCluster connection APIs
metrocluster-dr-group	MetroCluster DR-Group management APIs
metrocluster-interface	MetroCluster Interface management APIs
name-mapping	Name Mapping management APIs
nameservice	Name Services Configuration and Management
ndmp	NDMP Zapis
net	Access to ONTAP network management
netgroup	obtains netgroup information
nfs	NFS configuration and management. In Data ONTAP
nis	
ntp-server	auto generated category.
nvme	Manage NVMe Protocol Access
options	manage option values
perf	Manages counters of various system performance objects
platform-cap	Controller platform Zapis
portset	portset operations
qos	Quality of Service management
qtree	qtree management
quota	quota management and editing
secd	Access-Check ZAPI Infrastructure
sectrace	Permission tracing configuration and management
security	Manage system security
security-certificate	Certificate Zapis
security-key-manager	Key Manager Setup Wizard APIs
security-session	Session Management APIs
security-ssl	auto generated category.
service-processor	APIs for Managing the Service Processor
ses	SCSI enclosure services-related operations
sis	Manage volume deduplication and compression.

snapdiff	Generate differences between two snapshots of a volume
snaplock	SnapLock information and management
snapmirror	snapmirror management
snapmirror-policy	SnapMirror Policy Zapis
snapshot	manages snapshots
snapvault	SnapVault management APIs
snmp	SNMP management and retrieving MIB values
storage-acp-firmware	auto generated category.
storage-adapter	storage adapter operations
storage-array	commands to monitor/manipulate back end storage arrays
storage-bridge	System Bridge Zapis
storage-disk	Storage disk related operations.
storage-disk-firmware	auto generated category.
storage-initiator	Commands to monitor/view initiator port traffic.
storage-iscsi-initiator	
storage-pool	Storage Pool Zapis
storage-port	Storage port info
storage-shelf	Storage shelf info
storage-shelf-firmware	auto generated category.
storage-switch	Storage Switch ZAPIs
system	system information
tape-mc-info	Tape MC Info
template-management	Manage Templates
ucm	Unified Connect adapter information and management
useradmin	useradmin configuration and management
virtual-machine	
volume	Volume information and management
vscan	Vscan configuration and managment.
vserver	
vserver-peer	Create or Manage Vserver peer relationships
vserver-peer-transition	Create or Manage transition peer relationships
wafl	Utility functions for agents.

APIs in Category: **active-directory**

active-directory-account-create
active-directory-account-delete
active-directory-account-get-iter
active-directory-account-modify
active-directory-account-password-change
active-directory-account-password-reset

This set of ZAPIs allows creating an Active Directory account and manage them. It is only used when a full CIFS server is not desired or not available.

active-directory-account-create

[top]

Create an Active Directory account for the given Vserver. If a CIFS server already exists for the requested Vserver, then this command will fail. The existing CIFS server should be deleted before retrying again. If joining a domain, this command may take several minutes to complete.

Input Name	Range	Type	Description
account-name		netbios-name	Active Directory account NetBIOS name.
admin-password		string	Administrator password required for Active Directory account creation.
admin-username		string	Administrator username required for Active Directory account creation.
domain		string	Fully qualified domain name.
force-account-overwrite		boolean optional	If true and a machine account with the same name as specified in 'account-name' exists in Active Directory, it will be overwritten and reused. The default value for this field is false.
organizational-unit		string optional	Organizational unit under which the Active Directory account will be created.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
ECIFS_CIFS_SERVER_ALREADY_EXISTS	

active-directory-account-delete

[top]

Delete the Active Directory account. If a CIFS server already exists for the requested Vserver, cifs-server-delete API should be used to delete the machine account.

Input Name	Range	Type	Description
admin-password		string optional	Administrator password required for Active Directory account deletion.
admin-username		string optional	Administrator username required for Active Directory account deletion.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

active-directory-account-get-iter

[top]

Retrieve the list of active directory accounts

Input Name	Range	Type	Description
desired-attributes		active-directory-account-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		active-directory-account-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the active-directory-account object. All active-directory-account objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		active-directory-account-config[] optional	The list of attributes of active-directory-account objects.
next-tag		string optional	Tag for the next call. Not present when there are no more active-directory-account objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

active-directory-account-modify

[top]

Modify the Windows Active Directory domain. If a CIFS server already exists for the requested Vserver,

cifs-server-modify API should be used to modify the Windows Active Directory domain. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

Input Name	Range	Type	Description
admin-password		string optional	Administrator password required for Active Directory account creation in the given domain.
admin-username		string optional	Administrator username required for Active Directory account creation in the given domain.
domain		string optional	Fully qualified domain name.
force-account-overwrite		boolean optional	If true and a machine account with the same name as specified in 'account-name' exists in Active Directory, it will be overwritten and reused. The default value for this field is false.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

active-directory-account-password-change

[top]

Generate a new password for the machine account and change it in the Windows Active Directory domain.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

active-directory-account-password-reset

[top]

Reset the machine account password in the Windows Active Directory domain. This may be required if the password stored along with the machine account in the Windows Active Directory domain is changed or reset without the Vserver's knowledge. This operation requires the credentials for a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of.

Input Name	Range	Type	Description
admin-password		string	Administrator password required for Active Directory account password reset.
admin-username		string	Administrator username required for Active Directory account password reset.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **active-directory-account-config**

[top]

Active Directory configuration information for the Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-name		netbios-name optional	Active Directory account NetBIOS name. Attributes: required-for-create, non-modifiable
domain		string optional	Fully qualified domain name. Attributes: required-for-create, modifiable
domain-workgroup		domain-name optional	NetBios domain/workgroup name. Attributes: non-creatable, non-modifiable
organizational-unit		string optional	Organizational unit under which the Active Directory account resides. Attributes: optional-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

Element definition: **domain-name**

[top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

APIs in Category: **aggr**

aggr-64bit-upgrade-scan-start
aggr-64bit-upgrade-scan-stop
aggr-64bit-upgrade-start
aggr-add
aggr-autobalance-aggregate-state-get-iter
aggr-autobalance-config-get
aggr-autobalance-config-modify
aggr-autobalance-notification-get-iter
aggr-autobalance-volume-state-get-iter
aggr-check-spare-low
aggr-create
aggr-destroy
aggr-efficiency-cumulated-get
aggr-efficiency-get-iter
aggr-get-filer-info
aggr-get-iter
aggr-get-root-name
aggr-list-info
aggr-mediascrub-list-info
aggr-mirror
aggr-modify-raid-type
aggr-object-store-attach
aggr-object-store-config-create
aggr-object-store-config-delete
aggr-object-store-config-get
aggr-object-store-config-get-iter
aggr-object-store-config-modify
aggr-object-store-config-provider-list
aggr-object-store-get-iter
aggr-object-store-get-resync-status-iter
aggr-object-store-mirror
aggr-object-store-modify
aggr-object-store-profiler-abort
aggr-object-store-profiler-get-iter
aggr-object-store-profiler-start
aggr-object-store-unmirror

These APIs allow for full manipulation of Data ONTAP aggregates, and their structural components (plexes and RAID groups).

Aggregates are identified in one of two ways:

Name: The standard printable name for the aggregate, following standard Data ONTAP aggregate naming rules.

UUID: A DCE UUID that is formatted as a 36-character string composed of 32 hexadecimal characters. A UUID is broken up into five groupings that are separated by dashes ('-'). The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is NOT used. Also note that this identifier is exactly equivalent to the standard RAID tree ID. Aggregate UUID values can always be determined by invoking 'aggr-list-info' with no parameters (which returns records for all of the node's aggregates) and examining the values of the returned 'uuid' fields.

When requested from Admin Vserver LIF, aggregate UUID values can be determined by invoking 'aggr-get-iter'

An aggregate identifier may also appear inside a pathname format, especially when specifying a plex or RAID group within the aggregate:

[/vol/]<aggr_name_or_UUID>[<plexinfo>][<groupinfo>]

where <plexinfo> is '/plex{0..n}' and <groupinfo> is '/rg{0..n}'.

Examples include:

my_aggr

9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr

/vol/9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr/plex0

/vol/9ff6e1ce-d57d-11db-be9c-000100000529/plex0/rg3

Using UUID has the advantage of being able to access taken-over partner aggregates.

An aggregate has an HA (High Availability) policy, which may be one of: 'cfo' (Controller Failover), or 'sfo' (Storage Failover), or 'none' (Not specified)

Aggregates are allowed to have 'cfo' HA policy in both clustered and unclustered environments while having 'sfo' HA policy is restricted only to clustered environments.

With 'cfo' HA policy, failover is strictly pairwise. When a node fails, its HA partner takes over its storage all at once. When the failed node reboots, its HA partner gives back its storage all at once.

In clustered environments, with 'sfo' HA policy, failover may occur in a pairwise fashion much like 'cfo'. Additional differences from 'sfo'

aggr-object-store-vol-btuuids-get-iter
aggr-offline
aggr-online
aggr-options-list-info
aggr-relocation
aggr-relocation-status
aggr-rename
aggr-restrict
aggr-resync-options-get
aggr-resync-options-get-iter
aggr-resync-options-set
aggr-scrub-list-info
aggr-scrub-resume
aggr-scrub-start
aggr-scrub-stop
aggr-scrub-suspend
aggr-set-option
aggr-space-get-iter
aggr-space-list-info
aggr-spare-get-iter
aggr-split
aggr-status-get-iter
aggr-verify-list-info
aggr-verify-resume
aggr-verify-start
aggr-verify-stop
aggr-verify-suspend

include that a node which takes over storage on behalf of another node temporarily takes ownership of that storage. Also, when giveback occurs, its storage is not returned all at once. Rather, the aggregates with 'cfo' HA policy, including root, and its disks are returned first, followed by the remaining storage for that node.

An aggregate has a home owner, which is the node to which its disks have been administratively assigned.

In cluster environments, aggregates are identified as the standard printable name for the aggregate. UUID, Plex name and raidgroup name are invalid inputs when requested from Admin Vserver LIF.

aggr-64bit-upgrade-scan-start

[top]

Start the 64-bit upgrade scanner on the specified aggregate. Use the 'aggr-list-info' API to query the status of the 64-bit upgrade scanner. The status is made available in the 'status' element that is part of the 'aggr-64bit-upgrade-info' typedef. Similarly, use the 'd-volume-list-info' API to query the status of the 64-bit upgrade scanner running on each contained flexible volume.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate for which to start the 64-bit upgrade scanner.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUME_CANT_OBTAIN_VOLREF	
EVOLUMEREADONLY	
EOP_DISALLOWED_ON_TRAD	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS	
EOP_64BIT_UPGRADE_SCANNER_DISABLED	

aggr-64bit-upgrade-scan-stop

[top]

Stop the 64-bit upgrade scanner on the specified aggregate. Use the 'aggr-list-info' API to query the status of the 64-bit upgrade scanner. The status is made available in the 'status' element that is part of the 'aggr-64bit-upgrade-info' typedef. Similarly, use the 'd-volume-list-info' API to query the status of the 64-bit upgrade scanner running on each contained flexible volume.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate for which to stop the 64-bit upgrade scanner.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUME_CANT_OBTAIN_VOLREF	
EVOLUMEREADONLY	
EOP_DISALLOWED_ON_TRAD	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS	

aggr-64bit-upgrade-start

[top]

Trigger upgrade from 32-bit to 64-bit on the specified aggregate without adding disks. This API produces a set of results in the background. These results are not available as output from aggr-64bit-upgrade-start. Use the 'aggr-list-info' and 'volume-list-info' APIs to query the results of the 64-bit upgrade process on the aggregate and contained flexible volumes, respectively.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate for which to trigger 64-bit upgrade.
upgrade-64bit-mode		string optional	Option to specify if and how to grow volumes during the 64-bit upgrade. Legitimate values are "check", "grow_all", "grow_none", and "grow_reserved". If the "check" value is specified, aggr-64bit-upgrade-start produces a summary of the space impact which would result from upgrading the aggregate to 64-bit. This summary includes the space usage of each contained volume after the volume is upgraded to 64-bit and the amount of space that must be added to the volume to successfully complete the 64-bit upgrade. The summary can be obtained by querying the 'aggr-list-info' and 'volume-list-info' APIs. The aggregate's summary is made available in the 'check' element that is part of the 'aggr-64bit-upgrade-info' typedef. The flexible volumes' summary is made available in the 'check' element that is part of the 'volume-64bit-upgrade-info' typedef. This option does not result in an upgrade to 64-bit. If the "grow_all" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option allows aggr-64bit-upgrade-start to automatically grow volumes as needed if they run out of space due to the 64-bit upgrade. The volumes will be grown to accommodate all the files within these volumes. This option does not affect volumes which have autosize enabled. If the "grow_none" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option does not allow aggr-64bit-upgrade-start to automatically grow volumes if they run out of space due to the 64-bit upgrade. If the "grow_reserved" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option allows aggr-64bit-upgrade-start to automatically grow volumes if they run out of space due to the 64-bit upgrade, but only to accommodate the space reserved files within these volumes. This option does not affect volumes which have autosize enabled. The default is "grow_none".

Output Name	Range	Type	Description
upgrade-64bit-cookie		integer	The opaque cookie to uniquely identify this 64-bit upgrade transaction. This cookie can be compared against the cookie returned by aggr-list-info to ensure that the output produced by aggr-list-info corresponds to this 64-bit upgrade transaction. Range: [0..2^64-1].

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUME_CANT_OBTAIN_VOLREF	
EVOLUMEREADONLY	
EVOLUMEBUSY	
EVOLUME_ALREADY_64BIT	
EOP_DISALLOWED_ON_TRAD	
EAGGR_64BIT_UPGRADE_ENOSPC	
EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC	
EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE	
EVOLUME_64BIT_UPGRADE_DISALLOWED	
EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EVOLUME_64BIT_UPGRADE_MODE_INVALID	
EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL	
EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL	
EVOLUME_64BIT_UPGRADE_ESTIMATE_IN_PROGRESS	
EVOLUME_IRON_NON_LOCAL_STATUS	

aggr-add

[top]

Add disks to the specified aggregate. The disks to add are specified in the same way as for "aggr-create". Disks cannot be added to a mirrored aggregate if one or more of the plexes is offline. By the time the API returns, the disk(s) may not yet be completely added. Use 'aggr-list-info' to query the aggregate status to determine when it has finished growing due to the added disk(s). Same can be done using 'aggr-get-iter' when requested from Admin Vserver LIF. When the upgrade-64bit-mode input is provided to this API, the API produces a set of results in the background. These results are not available as output from aggr-add. Use the 'aggr-list-info' and 'volume-list-info' APIs to query the results of the 64-bit upgrade process on the aggregate and flexible volumes, respectively.

Input Name	Range	Type	Description
actual-disk-type		string optional	Actual disk type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, only disks of the specified type will be selected for use in the aggregate. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required.
aggregate		string	Name or UUID of the aggregate to which the disks will be added. See the synopsis for name/UUID format and restrictions.
allocation-units		integer optional	The spare capacity in terms of number of allocation units to be added to a given aggregate. Number of allocation units available and size of each unit can be found using ZAPI 'storage-pool-capacity-get-iter'. This option works only when 'storage-pool' is specified.

allow-mixed-rpm		boolean optional	Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false.
allow-same-carrier		boolean optional	Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used.
cache-raid-group-size		integer optional	Specifies the RAID group size of the new SSD RAID groups being created as part of the disk add operation. This option should be used while adding SSD disks for the first time to a hybrid-enabled aggregate. Range : [2..28]
cache-raid-type		string optional	Specifies the raid-type of the new RAID groups being created as part of the disk add operation. This option should be used while adding SSD disks for the first time to a hybrid-enabled aggregate. Possible values: raid4, raid_dp and raid_tec only. If not specified, the default value is the raid-type of the aggregate.
checksum-style		string optional	Specifies the checksum style for the disks to be added to an aggregate. This input is not allowed if a list of disks to use is specified through the "disks" parameter. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block. By default, disks with same checksum style as the aggregate are selected. Use this option to override that behavior and create a mixed checksum aggregate. "zoned" is not supported as one of the possible values as a mixed checksum aggregate can support only block and advanced_zoned checksum styles.
disk-class		string optional	Class of disks to use. Disks are grouped into classes based on their performance characteristics. Disks belonging to the same class are compatible for use in the same aggregate. When this option is used, all disks belonging to the specified disk class are considered eligible for selection. Possible values are: • "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA. • "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS. • "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA. • "solid-state" - Solid-state drives. Includes disk type SSD and SSD_NVM. • "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN. • "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required.
disk-count		integer optional	Number of disks to add, including the parity disks. The disks will come from the pool of spare disks. The smallest disks in this pool join the aggregate first, unless the "disk-size" argument is specified. Either the "disk-count" or "disks" argument must be specified. Range : [0..2^31-1].
			The individual disk size in 4KB blocks. For example, a disk-size of 131072000 represents a 500GB drive (131072000 * 4 * 1024 = 500 *

disk-size		integer optional	1024 * 1024 * 1024). Disks with a usable size between 90% and 105% of the specified size are selected. If neither the "disk-size" nor the "disk-size-with-unit" argument is specified, existing groups are appended with disks that are the best match by size for the largest disk in the group. When starting new groups, disks that are the best match by size for the largest disk in the last raidgroup are selected first, then smaller disks, and finally larger disks. This "disk-size" option is ignored if a specific list of disks is specified through the "disks" parameter. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-size-with-unit		string optional	This parameter accepts a disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". For example, these are accepted: 72G, 36G, 1T and 32M. But "72" will not be accepted. This "disk-size-with-unit" option is ignored if a specific list of disks is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-type		string optional	Type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, disks of the specified type or disks of a compatible type will be selected for use in the aggregate. The ability to mix compatible disk types in one aggregate is controlled by these system options: 'raid.mix.hdd.disktype.capacity' 'raid.mix.hdd.disktype.performance' and 'raid.mix.disktype.solid_state'. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. This option will be deprecated in a future release. Please use "actual-disk-type" or "disk-class" instead.
disks		disk-info[] optional	Specific list of disks to add to the aggregate. If the aggregate is mirrored and a specific list of disks is supplied, another list ("mirror-disks") must also be supplied with the same number of disks. Either the "disks" or "disk-count" argument must be specified.
force-cache-size		boolean optional	When set to true this parameter forces the addition of SSD disks to hybrid enabled aggregate by skipping the check for total (local + partner) hybrid SSD capacity. This can be used when the partner's cache capacity cannot be retrieved. Default value is false. Warning: If force-cache-size is set to true, the administrator is responsible to ensure that the total limit will not be exceeded.
force-spare-pool		boolean optional	Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead.
group-selection-mode		string optional	Specifies how DATA ONTAP adds the specified disks to raidgroups. Legitimate values are "last", "one", "new" or "all". group-selection-mode is an optional argument, and the behavior when it is not used is selected by value of raid-group. If raid-group is used, the behavior is the same as for group-selection-mode "one". If raid-group is not used, the behavior is the same as for group-selection-mode "last". The raid-group option must be used with group-selection-mode value "one", and it cannot be used with others. If the string value is "last", Data ONTAP adds the specified disks to the existing last RAID group first. After the last RAID group is full, it creates one or more new RAID groups and adds the remaining disks to the new groups. If the string value is "one", Data ONTAP adds the specified disks to the existing RAID group specified by raid-group option until this specified RAID group is full. If the string value is "new", Data ONTAP creates one or more new RAID groups and adds the specified disks to the new groups, even if they would fit into an existing RAID group. The name of new RAID groups are selected automatically. It is not possible to specify the name for the new RAID groups. If the string value is "all", Data ONTAP adds the specified disks to existing RAID groups first. Only after all existing RAID

			groups are full, it creates one or more new RAID groups and adds the remaining disks to the new groups.
ignore-pool-checks		boolean optional	Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false.
mirror-disks		disk-info[] optional	Specific list of mirror disks needed to accompany the list in the "disks" parameter. This list must contain the same number of disks as specified in "disks".
pre-check		boolean optional	Only check for the warnings without actually adding the disks. This option cannot be used when "simulate" is specified or "upgrade-64bit-mode" is set to "check". Default value is false.
raid-group		string optional	Specifies the RAID group (for example rg0) to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the aggregate can no longer be reverted to a version of Data ONTAP prior to 6.2. In such a case, the "force-spare-pool" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose an aggregate currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this aggregate, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups.
simulate		boolean optional	Simulates the addition of disks to the given aggregate or UUID of the aggregate. If set to "true", addition of disks won't happen but returns the list of disks that would be automatically selected for the addition of the aggregate. By default, simulate option is set to false.
so-aggr		boolean optional	Specifies that disks are being added to an unmirrored aggregate during Switchover.
storage-pool		string optional	Name of the storage pool from which the capacity will be added. This parameter cannot be used with disk-list or disk-count option.
upgrade-64bit-mode		string optional	Allows the aggregate to grow past 16 TB and begin 64-bit upgrade. If not supplied, adding disks past 16 TB to a 32-bit aggregate will fail. Legitimate values are "check", "grow_all", "grow_none", and "grow_reserved". If the "check" value is specified, aggr-add produces a summary of the space impact which would result from upgrading the aggregate to 64-bit. This summary includes the space usage of each contained volume after the volume is upgraded to 64-bit and the amount of space that must be added to the volume to successfully complete the 64-bit upgrade. The summary can be obtained by querying the 'aggr-list-info' and 'volume-list-info' APIs. The aggregate's summary is made available in the 'check' element that is part of the 'aggr-64bit-upgrade-info' typedef. The flexible volumes' summary is made available in the 'check' element that is part of the 'volume-64bit-upgrade-info' typedef. This option does not result in an upgrade to 64-bit or addition of disks. If the "grow_all" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option allows "aggr-add" to automatically grow volumes as needed if they run out of space due to the 64-bit upgrade. The volumes will be grown to accommodate all the files within these volumes. This option does not affect volumes which have autosize enabled. If the "grow_none" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option does not allow "aggr-add" to automatically grow volumes if they run out of space due to the 64-bit upgrade. If the "grow_reserved" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option allows "aggr-add" to automatically grow volumes if they run out of space due to the 64-bit upgrade, but only to accommodate the space reserved files within these volumes. This option does not affect volumes which have autosize enabled.

Output Name	Range	Type	Description
aggregate-capacity		integer optional	Estimated increase in aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1].
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.
is-upgrade-64bit-ignore		boolean optional	"true" if addition of disks does not make the aggregate size exceed 16TB but 'upgrade-64bit-mode' input was "grow-all", "grow-none" or "grow-reserved". This is not present if upgrade-64bit-mode input is not present or if upgrade to 64-bit was triggered.
is-upgrade-64bit-invalid		boolean optional	"true" if aggregate is already 64-bit but 'upgrade-64bit-mode' input was "grow-all", "grow-none" or "grow-reserved". This is not present if upgrade-64bit-mode input is not present or if upgrade to 64-bit was triggered.
nonzeroed-disks		integer optional	Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks.
pre-check-results		warning-code[] optional	Result of the pre-check for possible warnings. Possible warning codes are: • E_WARN_NEW_RAID_GROUP • E_WARN_EXCEEDS_HALF_CLUSTER_SIZE • E_WARN_DISK_DOWNSIZE • E_WARN_LOW_SPARE • E_WARN_NEEDS_PARTITIONING • E_WARN_UNUSED_SPARE_PARTITIONS • ECANT_USE_ALL_DISKS
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".
selected-disks		aggr-simulate-disk-info[] optional	List of disks that would be used for the addition of disks to the given aggregate. This is only returned if the simulate option is set to true.
selected-disks-for-shared-pool		aggr-simulate-disk-info[] optional	List of disks that would be added to a storage pool to grow the aggregate. This is only returned if the simulate option is set to true.
selected-mirror-disks		aggr-simulate-disk-info[] optional	List of mirror disks that would be used for the addition of disks to the given aggregate. This is only returned if the simulate option is set to true on the mirrored aggregate.
simulation-result		aggregate-simulate-layout-info optional	Layout of disks selected for addition to the aggregate. This is returned only if simulate option is set to true.
upgrade-64bit-cookie		integer optional	The opaque cookie to uniquely identify this 64-bit upgrade transaction. This cookie can be compared against the cookie returned by aggr-list-info to ensure that the output produced by aggr-list-info corresponds to this 64-bit upgrade transaction. Range: [0..2^64-1].
warning-message		string optional	Warning message returned during aggregate addition.

Errno	Description

EINTERNALERROR	
EDISKADD_RESTRICT_TO_RAIDTP	
EINVALIDINPUTERROR	
EAPIMISSINGARGUMENT	
EVOLUMEDOESNOTEXIST	
EVOLUMEDISKSIZEINVALID	
EVOLUMEDISKDUP	
EVOLUMEGSMINVALID	
EAGGR_TOO_LARGE	
EAGGR_TOO_LARGE_SYSTEM_LIMIT	
EVOLUME_64BIT_UPGRADE_MODE_INVALID	
EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL	
EAGGR_WOULD_UPGRADE	
EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL	
EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL	
EVOLUME_IRON_NON_LOCAL_STATUS	
EVOLUME_64BIT_UPGRADE_ESTIMATE_IN_PROGRESS	
EAGGR_64BIT_UPGRADE_ENOSPC	
EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC	
EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE	
EAGGR_64BIT_UPGRADE_RESTRICTED	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EAGGR_SIZE_LESS_THAN_16TB	
EVOLUME_64BIT_UPGRADE_DISALLOWED	
EDISK_TYPE_MISMATCH	
EONTAPI_EINVAL	
ECKSUMNOTKNOWN	
EMCS_NOT_ALLOWED_WITH_LUNS	
EHYBRID_NOT_ALLOWED_ON_RESTRICTED_AGGR	
EVOLUME_ALREADY_64BIT	
ENOT_A_AZCS_DISK	
ENO_AZCS_DISKS	
ESAME_DISK_CARRIER	
EFAILED_DISK_IN_CARRIER	
EHYBRID_SSD_NODE_LIMIT_EXCEEDED	
ENOTORIGDISKOWNER	
ENOTDISKOWNER	
EOP_MIXED_RAID_TYPE_NOT_ALLOWED	
EFAILED_TO_RETRIEVE_PARTNER_CACHE_CAPACITY	
EOP_FORCE_CACHE_SIZE_NOT_ALLOWED	
EARRAYLUNUNSUPPORTED	
ENOTALLOWEDCACHERAIDSIZECHANGE	
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	
EDISK_BAD_DISK_ID	
EDISK_NOT_SPARE_DISK	
EDISK_DISK_IS_OFFLINE	
EDISK_DISK_ALREADY_IN_USE	
EDISK_NOT_A_BLOCK_DISK	
EDISK_NOT_A_ZONED_DISK	
EDISK_NOT_DISKS_SIZE	

EDISK_NOT_ENOUGH_DISKS	
EDISK_NO_BLOCK_DISKS	
EDISK_NO_ZONED_DISKS	
EDISK_NO_DISKS_MATCHING_TYPE	
EDISK_NO_DISKS_MATCHING_RPM	
EDISK_NO_DISKS_MATCHING_IF_SPEED	
EDISK_NOT_SAME_POOLS	
EDISK_POOL_ISOLATION_VIOLATION	
EDISK_DISK_DR_HOME_MISMATCH	
EWRONG_POOL_SO_AGGR	
EDISK_DISK_RPM_MISMATCH	
EDISK_DISK_IF_SPEED_MISMATCH	
EDISKTYPEWRONGFORSNAPLOCK	
ERAIDGROUP_DONT_EXIST	
ERAIDGROUP_IS_FULL	
EPLEX_IN_BAD_STATE	
ENOT_MIRROR_VOLUME	
EWRONG_POOL_MCC	
EDISK_COUNT_OP_NOT_SUPPORTED	
ENOT_SUPPORTED_PARAM_SIZE	

aggr-autobalance-aggregate-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

Input Name	Range	Type	Description
desired-attributes		aggr-autobalance-aggregate-state optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-autobalance-aggregate-state optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-autobalance-aggregate-state[] optional	The list of attributes of aggr-autobalance objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-autobalance objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-autobalance-config-get

[top]

Displays the configuration for Auto Balance Aggregate.

Input Name	Range	Type	Description
desired-attributes		aggr-autobalance-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		aggr-autobalance-config	The attributes of the aggr-autobalance.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-autobalance-config-modify

[top]

Modifies Auto Balance Aggregate configuration.

Input Name	Range	Type	Description
available-threshold-percent		integer optional	When Auto Balance Aggregate identifies an aggregate that needs to be balanced, it will attempt to identify other target aggregates it can move volumes to. An aggregate will only be considered as a target if its projected space usage after the move is still under this percentage. Auto Balance Aggregate will attempt to move volumes from an unbalanced aggregate until it is under this percentage. The default value is 40%.
hold-duration-after-move		time-interval optional	This value represents the number of seconds that need to have elapsed since the volume was last moved before it will be considered a movable candidate again. The default value is 48 hours.
is-enabled		boolean optional	'true' if Auto Balance Aggregate is enabled. 'false' if Auto Balance Aggregate is disabled.
move-mode		string optional	For all modes, Auto Balance Aggregate will identify the volume moves that will help to balance space usage across the aggregates. The mode dictates what Auto Balance Aggregate will do with the suggested moves. In 'recommend' mode, the suggested moves will be displayed, but no further action will be taken.In 'auto' mode, Auto Balance Aggregate will trigger moves to start. The default mode is 'recommend'.
state-polling-interval		time-interval optional	Polling period, in seconds, used by Auto Balance Aggregate to update volume and aggregate stats. The default value is 3600 seconds (1 hour).
unbalanced-threshold-percent		integer optional	This percentage will indicate the space used threshold that will cause Auto Balance Aggregate to consider this aggregate as unbalanced. The default value is 60%.

volume-activity-threshold		integer optional	The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second.
volume-inactive-delay-threshold		time-interval optional	This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-autobalance-notification-get-iter

[top]

Displays the nodes that notify Auto Balance Aggregate about aggregates that need to be balanced

Input Name	Range	Type	Description
desired-attributes		aggr-autobalance-notification optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-autobalance-notification optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-autobalance-notification[] optional	The list of attributes of aggr-autobalance objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-autobalance objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-autobalance-volume-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

Input Name	Range	Type	Description
		aggr-	

desired-attributes		autobalance-volume-state optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-autobalance-volume-state optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-autobalance-volume-state[] optional	The list of attributes of aggr-autobalance objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-autobalance objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-check-spare-low

[top]

Return true if there is no suitable spare disk available for any filesystem (parity or data) disk.

Input Name	Range	Type	Description
aggr-name		string optional	The aggregate to get the spares low information for. If not specified the spares low information is obtained for node.
node-name		string optional	Low spare condition checked on the requested node. When requested from Admin Vserver LIF and node name not specified, status for the cluster is returned.

Output Name	Range	Type	Description
is-spare-low		boolean	"true", if system has insufficient spare disk, "false" otherwise. When requested from Admin Vserver LIF, "true" is returned if one or more nodes in the cluster have spare low condition, "false" otherwise. When aggregate name has been specified, "true" is returned if the aggregate exists and any RAID groups have a spare low condition.

aggr-create

[top]

Create a new aggregate with the given name. The maximum number of aggregates that can be created on a

filer varies by the type of configuration. In a standalone configuration, up to 200 aggregates can be created on a filer. In an HA configuration, this number drops to 100 and to 50 in a C-mode MetroCluster configuration. The aggregate may not yet be operational immediately after the API returns. Use 'aggr-list-info' to query the status of the newly-created aggregate to determine when it is fully operational. Same can be done using 'aggr-get-iter' when requested from Admin Vserver LIF. NOTE: If ECANT_USE_ALL_DISKS is returned, then the requested aggregate was indeed created, just not with all the disks that were specified.

Input Name	Range	Type	Description
actual-disk-type		string optional	Actual type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, only disks of the specified type will be selected for use in the aggregate. This option is not allowed if a disk type is specified through the "disk-type" option or if a disk class is specified through the "disk-class" option. It is also not allowed if a list of disks to use is specified through the "disks" option.
aggregate		string	Name of the aggregate to create. The aggregate name can contain letters, numbers, and the underscore character(_), but the first character must be a letter or underscore. The maximum length of the aggregate name is 255.
allow-mixed-rpm		boolean optional	Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false.
allow-same-carrier		boolean optional	Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used.
auto-provision-target-size		integer optional	This field is set to indicate the target size of the aggregate when auto provision is creating it in multiple steps. Range : [0..2^63-1].
autobalance-state		autobalance-aggregate-state optional	The state of the aggregate being balanced. Possible values: • "disabled" - Auto Balance Aggregate is disabled, • "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark. • "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark., • "ineligible" - Ineligible The states excluded, balanced and unbalanced are available only when Auto Balance Aggregate is enabled. The default value is 'ineligible'
block-type		string optional	The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit
checksum-style		string optional	Specifies the checksum style for the aggregate. This input is not allowed if a list of disks to use is specified through the "disks" parameter. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block,
			Class of disks to use. Disks are grouped into classes based on their performance characteristics. Disks belonging to the same class are compatible for use in the same aggregate. When this option is used, all disks belonging to the specified disk class are considered eligible for selection. Possible values are: • "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA.

disk-class		string optional	• "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS. • "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA. • "solid-state" - Solid-state drives. Includes disk type SSD and SSD_NVM. • "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN. • "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK. This option is not allowed if a disk type is specified through the "disk-type" or "actual-disk-type" option. It is also not allowed if a list of disks to use is specified through the "disks" option.
disk-count		integer optional	Number of disks to place into the aggregate, including parity disks. The disks in this newly- created aggregate come from the spare disk pool. The smallest disks in this pool join the aggregate first, unless the "disk-size" argument is provided. Range [0..2^31-1]. Either "disk-count" or "disks" must be supplied.
disk-size		integer optional	Disk size in 4KB blocks. Disks that are within 10% of the specified size will be selected for use in the aggregate. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-size-with-unit		string optional	Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This "disk-size-with-unit" option is ignored if a specific list of disks is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-type		string optional	Type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, disks of the specified type or disks of a compatible type will be selected for use in the aggregate. The ability to mix compatible disk types in one aggregate is controlled by these system options: 'raid.mix.hdd.disktype.capacity' 'raid.mix.hdd.disktype.performance' and 'raid.mix.disktype.solid_state'. The "disk-type" option is not allowed if a disk type is specified through the "actual-disk-type" option or if a disk class is specified through the "disk-class" option. It is also not allowed if a list of disks to use is specified through the "disks" option. This option will be deprecated in a future release. Please use "actual-disk-type" or "disk-class" instead.
disks		disk-info[] optional	Specific list of disks to use for the new aggregate. To create a "mirrored" aggregate with a specific list of disks, both 'disks' and 'mirror-disks' options must be supplied. Additionally, the same number of disks must be supplied in both lists. This option cannot be used when the 'is-mirrored' option is set to true.
encrypt		boolean optional	Enable encryption for the aggregate being created. Default value is false.
encrypt-with-aggr-key		boolean optional	Enable NetApp Aggregate Encryption for the aggregate being created. The aggregate will support encryption with aggregate keys. Default value is false.
force-small-aggregate		boolean optional	Forces the creation of a 2-disk RAID4 aggregate, or a 3-disk or 4-disk RAID-DP aggregate. The default value is false.
force-spare-pool		boolean optional	Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead.
			Aggregate's HA policy. The only allowed values are "cfo" and "sfo". In

ha-policy		ha-policy-type optional	clustered environments default value is 'sfo' if not specified. In unclustered environments, it is not allowed to specify this attribute as it is always be 'cfo' internally. EINVALIDINPUTERROR is returned if value is other than "cfo" and "sfo". EOP_CLUSTER_ATTR_DISALLOWED is returned if this attribute is used in unclustered environments.
ignore-pool-checks		boolean optional	Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. This option can be used only when 'mirror-disks' is provided.
is-autobalance-eligible		boolean optional	When set to 'true', the aggregate is included in Auto Balance aggregate processing. The default value is false, meaning that the aggregate is included in Auto Balance Aggregate processing.
is-mirrored		boolean optional	Specifies that the new aggregate be mirrored (have two plexes). If set to true, then the indicated disks will be split across the two plexes. By default, the new aggregate will not be mirrored. This option cannot be used when a specific list of disks is supplied with either the 'disks' or 'mirror-disks' options.
is-snaplock		boolean optional	Specifies the creation of a SnapLock aggregate. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock aggregate is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise aggregate if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance aggregate. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock aggregate, the suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock aggregate, the suggested method is to specify neither snaplock-type nor is-snaplock.
language-code		string optional	Specifies the language to use for the volume via a language code. The default language is the one used by the filer's root volume. For the full list of available language codes, see 'volume-create'.
mirror-disks		disk-info[] optional	List of mirror disks to use. It must contain the same number of disks specified in 'disks'. This option cannot be used when 'is-mirrored' option is set to true.
nodes		node-name[] optional	Target node to create aggregate. If no node name is provided, aggregate will be created on the local node. If one node name is provided, aggregate(striped or not_striped based on the striping input) will be created on that node.When multiple nodes are specified, striped aggregate will be created across multiple nodes.
pre-check		boolean optional	Only check for the warnings without actually creating the aggregate. This option cannot be used when "simulate" is specified. Default value is false.
raid-size		integer optional	Specifies the maximum number of disks in each RAID group in the aggregate. The maximum value for this parameter is 28. The default value is platform- dependent. The valid range of values is also platform-dependent, but never wider than [2..28].
raid-type		string optional	Specifies the type of RAID groups to use in the new aggregate. Possible values: raid4, raid_dp, raid_tec. The default value is raid4 on most platforms.
requested-uuid		string optional	If this field is set, the aggr will use this value for its uuid if possible.
rpm		integer optional	Rotational speed of disks in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. This option is needed only when disks with different rotational speeds are connected to the filer. It is not allowed if a list of disks to use is specified through the "disks" parameter.
			Specifies to return the list of disks getting used to create the new

simulate		boolean optional	aggregate. If set to "true", new aggregate won't be created but returns the disks that would be automatically selected for the creation of the aggregate. By default, simulate option is set to false.
snaplock-type		string optional	Specifies the type of Snaplock aggregate to be created. Possible values - "compliance", "enterprise" or "non-snaplock". ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUTERROR is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running.
so-aggr		boolean optional	Specifies creation of an unmirrored aggregate during Switchover.
spare-pool		string optional	Specifies the spare pool from which to select spare disks to use in creation of a new aggregate. This option is not allowed if a list of disks specified through the "disks" parameter. This option cannot be used when "is-mirrored" is set to true. Possible values: • "Pool0" - Disks associated with spare Pool0. • "Pool1" - Disks associated with spare Pool1.
striping		striping-type optional	Specifies the striping information about new aggregate. The only allowed values are "striped" and "not_striped". Default value is "not_striped". "striped" value creates striped aggregate on node. This attribute is not allowed in unclustered environments. EINVALIDINPUTERROR is returned if value is other than "striped" and "not_striped". EOP_CLUSTER_ATTR_DISALLOWED is returned if this attribute is used in unclustered environments. EOP_DISALLOWED_ON_CFO_AGGR is returned if this attribute is set to "striped" when aggregate being created with 'cfo' HA policy.
type		string optional	The type of the aggregate. Possible values: aggr - "aggr" (aggregate contains flexible volumes) If not specified, the default is "aggr."

Output Name	Range	Type	Description
aggregate-capacity		integer optional	Estimated aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1].
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.
nonzeroed-disks		integer optional	Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks.
pre-check-results		warning-code[] optional	Result of the pre-check for possible warnings. Possible warning codes are: • E_WARN_EXCEEDS_HALF_CLUSTER_SIZE • E_WARN_DISK_DOWNSIZE • E_WARN_LOW_SPARE • E_WARN_NEEDS_PARTITIONING • E_WARN_UNUSED_SPARE_PARTITIONS • ECANT_USE_ALL_DISKS
selected-disks		aggr-simulate-disk-info[] optional	List of disks that would be used for the creation of the new aggregate. This is only returned if the simulate option is set to true.
selected-disks-for-shared-pool		aggr-simulate-disk-info[] optional	List of disks that would be added to a storage pool to grow the aggregate. This is only returned if the simulate option is set to true.
selected-mirror-disks		aggr-simulate-disk-info[] optional	List of mirror disks that would be used for the creation of the new aggregate. This is only returned if both the simulate option and the is-mirrored option are set to true.

simulation-result		aggregate-simulate-layout-info optional	Layout of disks selected for creation of the aggregate. This is returned only if simulate option is set to true.
warning-message		string optional	Warning message returned during aggregate creation.

Errno	Description
EAPIMISSINGARGUMENT	
ECANT_USE_ALL_DISKS	
ENO_POOL_EXISTS	
EINTERNALERROR	
EINVALIDINPUTERROR	
ESERVICENOTLICENSED	
EOP_CLUSTER_ATTR_DISALLOWED	
EOP_DISALLOWED_ON_CFO_AGGR	
EAGGR_TOO_LARGE	
EAGGR_TOO_LARGE_SYSTEM_LIMIT	
EDISKTYPEWRONGFORSNAPLOCK	
EDISKTYPEWRONGFORVOL	
ENOT_A_AZCS_DISK	
ENO_AZCS_DISKS	
EONTAPI_EWORMNOCLOCK	
ESYNCMIRROR_BAD_CONFIG	
ESYNCMIRROR_NO_PLATFORM	
ESAME_DISK_CARRIER	
EFAILED_DISK_IN_CARRIER	
ENOTORIGDISKOWNER	
ENOTDISKOWNER	
EARRAYLUNUNSUPPORTED	
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	
EDISK_BAD_DISK_ID	
EDISK_NOT_SPARE_DISK	
EDISK_DISK_IS_OFFLINE	
EDISK_DISK_ALREADY_IN_USE	
EDISK_NOT_DISKS_SIZE	
EDISK_NOT_ENOUGH_DISKS	
EDISK_NO_DISKS_MATCHING_TYPE	
EDISK_NO_DISKS_MATCHING_RPM	
EDISK_NO_DISKS_MATCHING_IF_SPEED	
EDISK_NOT_A_BLOCK_DISK	
EDISK_NOT_A_ZONED_DISK	
EDISK_INCORRECT_DISKCOUNT	
EDISK_NOT_SAME_POOLS	
EDISK_POOL_ISOLATION_VIOLATION	
EDISK_DISK_RPM_MISMATCH	
EDISK_DISK_IF_SPEED_MISMATCH	
EDISKTYPEWRONGFORSNAPLOCK	
EDISK_DISK_DR_HOME_MISMATCH	
ENOT_ALLOWED_WITH_SPARES_LOW_OPTION	
EDISKTOOSMALL	

ENOT_POOL0_DISKS	
EWRONG_POOL_SO_AGGR	
ENOT_SUPPORTED_PARAM_SIZE	

aggr-destroy

[top]

Destroys the specified aggregate or plex. If an aggregate is specified, all plexes in the aggregate are destroyed. If a plex is specified, only that plex is destroyed, leaving an unmirrored aggregate containing the remaining plex. The disks in the destroyed object become spare disks. Only offline aggregates and plexes can be destroyed. Note: Offline aggregates will be destroyed even if they contain one or more flexible volumes, which should not typically be the case. From cluster interface only aggregates are supported and plexes are not supported.

Input Name	Range	Type	Description
aggregate		string	Name of the existing aggregate or plex to be destroyed, using the following format: [/vol/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.
plex		string optional	Name of a particular plex to destroy.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEOFFLINE	
EVOLUME_HAS_VFILER_STORAGE	
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	

aggr-efficiency-cumulated-get

[top]

Display the cumulated efficiency ratio for the specified aggregates

Input Name	Range	Type	Description
aggregates		string[] optional	List of the aggregates to calculate cumulated efficiency.
nodes		string[] optional	List of nodes to calculate cumulated efficiency.

Output Name	Range	Type	Description
aggr-efficiency-cumulated-info		aggr-efficiency-cumulated-info optional	Aggregate Storage Efficiency Information

Errno	Description
ESENOTFOUNDNODE	
ESENOTFOUNDCLUSTER	

aggr-efficiency-get-iter

[top]

Display the all Flash optimized aggregates and their storage efficiency.

Input Name	Range	Type	Description
desired-attributes		aggr-efficiency-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-efficiency-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-efficiency object. All aggr-efficiency objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-efficiency-info[] optional	The list of attributes of aggr-efficiency objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-efficiency objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-get-filer-info

[top]

Get information on what possibilities and parameters exist for aggregates on a given filer.

Input Name	Range	Type	Description
node-name		string	Name of the node (filer)

Output Name	Range	Type	Description
allowed-raidtypes		raidtype-info[]	List of RAID types allowed for aggregates on this filer.
checksum-types		string	Checksum types supported by this filer. The possible values: • "zoned" - if all aggregates are Fixed VBN (this value is no longer supported), • "block" - if all aggregates are Block Appended, • "mixed" - if aggregates are mixed (Fixed VBN, Block Appended and Advanced Zoned), • "none" - if no aggregates have zoned or advanced_zoned checksum (azcs) or block checksums, • "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme.

default-raidtype		string	Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: "raid0", "raid4", "raid_dp", "raid_tec", "mixed_raid_type".
default-raidtype-config		default-raidtype-config-info[] optional	List of the RAID type parameters for each disk size and disk type supported on this filer.
disk-types		string	Sector sizes of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks are 520 BPS, "4096" if all disks are 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS.
max-named-disks-per-request		integer	The maximum number of named disks which can be specified to 'storage aggregate add', 'storage aggregate create', or 'storage aggregate mirror' operation. Disk addition process may fail if the specified number of named disk is more than this limit. This value is the maximum number of disk entries which can be specified in 'disks' or 'mirror-disks' argument of 'aggr-create' and 'aggr-add' api. Range : [0..2^31-1].
min-aggr-disk-count		min-aggr-disk-count-info[] optional	Information about the minimum number of disks required in an aggregate.
raidgroup-size		raidgroup-size-info[]	List of the RAID group sizing parameters for each RAID type supported on this filer.
root-volume		string	Current root volume on the filer.
snapshots-max		integer	Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1].

Errno	Description
EINTERNALERROR	

aggr-get-iter

[top]

Iterate over a list of aggregate objects.

Input Name	Range	Type	Description
desired-attributes		aggr-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-attributes[] optional	The list of attributes of aggr objects.
		string	Tag for the next call. Not present when there are no more aggr objects

next-tag		optional	to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-get-root-name

[top]

Return the name of the "root" volume on the filer.

Output Name	Range	Type	Description
root-volume		string	Name of the root volume for the filer.

Vfiler-enabled
Yes

aggr-list-info

[top]

Get aggregate status.

Input Name	Range	Type	Description
aggregate		string optional	The aggregate name or UUID to get status for. See the synopsis for name/UUID format. If not supplied, get status of all aggregates owned by the local node.
filter-attrs		filter-attrs-info optional	This input is used as a discriminant when status is required for one or more aggregates. This option will be ignored when an aggregate name is specified. If no argument is supplied, default value is NULL. If this is NULL or all of its elements are not supplied, then this filter has no effect and the behavior is the same as described in the 'aggregate' input description.
verbose		boolean optional	If set to "true", detailed volume and plex information (including all the RAID group and disk information) is returned. If not supplied or set to "false", this extra information is not returned.

Output Name	Range	Type	Description
aggregates		aggr-info[]	List of aggregates and their status.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	

Vfiler-enabled
Yes

aggr-mediascrub-list-info

[top]

Get the status of media scrubbing on the named aggregate, plex, or RAID group. Status includes percentage complete and the media scrub's status.

Input Name	Range	Type	Description
aggregate		string optional	Name of an existing aggregate, plex, or RAID group, using the following format: [/vol/][][] If no name is given, then status is generated for all RAID groups currently being media-scrubbed.

Output Name	Range	Type	Description
mediascrub-details		mediascrub-detail-info[]	List of RAID groups and their media scrub status.

Errno	Description
EINTERNALERROR	

aggr-mirror

[top]

Turns an unmirrored aggregate into a mirrored aggregate by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-aggregate" option is specified, taken from another existing unmirrored aggregate. The named aggregate must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" list option in the same way as with the "aggr-create" and "aggr-add" commands. The number of disks indicated must match the number present in the existing aggregate. If disks are not specified explicitly, then disks are automatically selected to match those in the aggregate's existing plex.

Input Name	Range	Type	Description
aggregate		string	Name of the existing aggregate to be mirrored. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.
allow-mixed-rpm		boolean optional	Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false.
allow-same-carrier		boolean optional	Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used.
force		boolean optional	Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. Also, the victim cannot normally be accepted when it is owned by one or more vfilers. All these safety-driven behaviors are overridden when this option is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead.
ignore-pool-checks		boolean optional	Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false.

mirror-disks		disk-info[] optional	Specific list of mirror disks to add. This list must match the number of disks present on the existing aggregate. The specified disks are not permitted to span disk pools unless overridden with the "force-spare-pool" option.
override-vfiler-ownership		boolean optional	The victim aggregate cannot normally be accepted when it is owned by one or more vfilers. This option may be set to true in order to override that restriction. The option is ignored if 'victim-aggregate' is not specified.
pre-check		boolean optional	Only check for the warnings without actually mirroring the aggregate. Default value is false.
simulate		boolean optional	Simulates the addition of a new plex to an existing aggregate. If set to "true", new plex won't be added but returns the disks that would be automatically selected for the creation of the new plex. By default, simulate option is set to false.
victim-aggregate		string optional	The "victim" aggregate to cannibalize in order to mirror the named aggregate. The "victim-aggregate" must have been previously joined with the aggregate to be mirrored and then split from it. The resulting mirrored aggregate is otherwise identical to the original aggregate before the operation. The "victim-aggregate" (and all its volumes) is effec- tively destroyed. "victim-aggregate" (and all its volumes) must be offline.

Output Name	Range	Type	Description
aggregate-capacity		integer optional	Estimated increase in aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1].
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.
nonzeroed-disks		integer optional	Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks.
pre-check-results		warning-code[] optional	Result of the pre-check for possible warnings. • E_WARN_DISK_DOWNSIZE • E_WARN_LOW_SPARE • E_WARN_NEEDS_PARTITIONING • E_WARN_UNUSED_SPARE_PARTITIONS • ECANT_USE_ALL_DISKS
selected-disks		aggr-simulate-disk-info[] optional	List of disks that would be used to create the new plex of an existing aggregate. This is only returned if the simulate option is set to true.
selected-disks-for-shared-pool		aggr-simulate-disk-info[] optional	List of disks that would be partitioned as part of mirroring an existing aggregate. This is only returned if the simulate option is set to true.
selected-mirror-disks		aggr-simulate-disk-info[] optional	This is a dummy output needed to make aggr mirror disk list processing similar to aggr create and aggr add.
simulation-result		aggregate-simulate-layout-info optional	Layout of disks selected for mirroring the existing aggregate. This is returned only if simulate option is set to true.
warning-message		string optional	Warning message returned during aggr mirror.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENAMEINVALID	
EVOLUMEDISKSIZEINVALID	

ESYNCMIRROR_BAD_CONFIG	
ESYNCMIRROR_NO_PLATFORM	
ESAME_DISK_CARRIER	
EFAILED_DISK_IN_CARRIER	
ENOTORIGDISKOWNER	
ENOTDISKOWNER	
ESYNCMIRROR_JOIN_DISKTYPE_MISMATCH	
ESYNCMIRROR_JOIN_CKSUMTYPE_MISMATCH	
ESYNCMIRROR_JOIN_RAIDTYPE_MISMATCH	
EARRAYLUNUNSUPPORTED	
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	
EDISKTYPEWRONGFORSNAPLOCK	
EDISK_BAD_DISK_ID	
EDISK_NOT_SPARE_DISK	
EDISK_DISK_IS_OFFLINE	
EDISK_DISK_ALREADY_IN_USE	
EDISK_INCORRECT_DISKCOUNT	
EDISK_NOT_A_BLOCK_DISK	
EDISK_NOT_A_ZONED_DISK	
EDISK_NO_ZONED_DISKS	
EDISK_NOT_DISKS_SIZE	
EDISK_DISK_RPM_MISMATCH	
EDISK_NOT_ENOUGH_DISKS	
EDISK_NO_DISKS_MATCHING_TYPE	
EDISK_NO_DISKS_MATCHING_RPM	
EDISK_NO_DISKS_MATCHING_IF_SPEED	
EJOIN_NO_COMMON_SNAPSHOT	
EJOIN_SNAP_CURRENTLY_INVALID	
EJOIN_CONFIG_MISMATCH	
EJOIN_WAFL_INCONSISTENT	
EJOIN_CKSUM_STATE_MISMATCH	
EJOIN_LOCAL_ID_MISMATCH	
EDISK_NOT_SAME_POOLS	
ECKSUM_ZONED_CKSUM_INITIALIZING_PHASE1	
EDISK_DISK_IF_SPEED_MISMATCH	
ESNAPSHOT_CANT_INCREASE_SNAP_RESERVE	
EDISK_DISK_DR_HOME_MISMATCH	

aggr-modify-raid-type

[top]

Modify the RAID type for the given aggregate to the specified "raid-type". This API can also selectively change the RAID type of specific raid groups in the aggregate based on the specified "disk-type". The change remains effective even if the filer is rebooted. This API does not support modifying options of a striped aggregate.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate whose option is to be set. See the synopsis for name/UUID format and restrictions.
			Type of disks to use : ATA, BSAS, FCAL, FSAS, LUN, SAS, SSD, SSD_NVM,

disk-type		string optional	or VMDISK. This option is required if we want to change the raid type of raid groups created out of the specified disks only. Otherwise, if this is not specified then the raid type for all raid groups in the aggregate would change.
raid-type		string	possible values: "raid4","raid_dp","raid_tec" The type of RAID group used for this aggregate. The "raid4" setting provides one parity disk per RAID group, while "raid_dp" provides two. Changing this option immediately changes the RAID group type for the RAID groups in the aggregate. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins a reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk.
simulate		boolean optional	Simulates modifying the raid type of the aggregate. If set to "true", raid type will not be changed but, any possible warnings will be returned back. Default value is "false".

Output Name	Range	Type	Description
pre-check-results		warning-code[] optional	Warnings from pre checking of raid type modification. Possible warning codes are: • E_WARN_LOW_SPARE
simulation-result		modify-raid-type-simulate-info optional	Results from simulation of raid type modification.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EMIXED_RAIDTYPE_AGGR_NOT_HYBRID	
EMIN_DISK_FOR_UPGRADE_TO_RAIDTP	
EGROUPTYPE_ALREADY_RAIDTP	
EGROUPTYPE_ALREADY_RAIDDP	
EGROUPTYPE_ALREADY_RAID4	
EMIXED_TREE_MISSING_DISKTYPE	
EGROUP_NOT_FOUND_DISKTYPE	

aggr-object-store-attach

[top]

Attach an object store to an aggregate

Input Name	Range	Type	Description
aggregate		string	Name of the Aggregate
allow-flexgroup		boolean optional	Allow Existing FlexGroup Constituents in the Aggregate on Attach
check-only		boolean optional	Validate But Do Not Attach
object-store-name		string	Object Store Configuration Name

Errno	Description

EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	
E_AGGREGATE_ALREADY_FABRIC_POOL	
E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_HYBRID_AGGR	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_HYBRID_ENABLED_AGGR	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_NON_SSD	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_MIRRORED_AGGR	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_SNAPLOCK_COMPLIANCE_AGGR	
E_AGGREGATE_ECV_UNSUPPORTED_ADD_OBJ_STORE_TO_SNAPLOCK_ENTERPRISE_AGGR	
E_AGGREGATE_ECV_UNSUPPORTED_ADD_OBJ_STORE_TO_SNAPLOCK_COMPLIANCE_AGGR	
E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_DOESNT_EXIST	
E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_INCORRECT	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_ROOT_AGGR	
E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_ADB_AGGR	
E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_GUARANTEE	
E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_VOLUME_TYPE_FLEXGROUP	
E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_VOLUME_TYPE_IV	
E_AGGREGATE_OBJ_STORE_MIN_TPT_CHECK_FAILED	
E_VSERVERDR_CANNOT_CONVERT_TO_FABRIC_POOL	
E_AGGREGATE_CANNOT_ATTACH_OBJ_STORE_TO_DISK_TYPE	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	
E_OBJSTORE_CLIENT_TLS	
E_OBJSTORE_CLIENT_OTHER	
E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND	

aggr-object-store-config-create

[top]

Create an object store configuration.

Input Name	Range	Type	Description
access-key		string optional	Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types
			Authentication used to access the object store. Supported values are:

auth-type		string optional	• 'key' - Access keys provided by admin • 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP) • 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance • 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance • 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance
azure-account		string optional	Azure account
azure-private-key		string optional	Azure access key
azure-sas-token		string optional	Azure Account Shared Access Signature token
cap-url		string optional	URL to request temporary credentials for a C2S account.
check-only		boolean optional	Do not create a config. Only check that create could succeed.
ignore-warning-codes		integer[] optional	Input list with warning codes which can be ignored.
ipspace		string optional	IPspace to use in order to reach the object store.
is-certificate-validation-enabled		boolean optional	Is SSL/TLS certificate validation enabled. The default value is 'true'.
object-store-name		string	Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.
port		integer optional	Port number of the object store
provider-type		string	Type of object store provider. Allowed values are: • 'AWS_S3' - AWS S3 • 'SGWS' - StorageGRID Webscale • 'Azure_Cloud' - Microsoft Azure Cloud • 'IBM_COS' - IBM Cloud Object Storage • 'AliCloud' - Alibaba Cloud Object Storage Service • 'GoogleCloud' - Google Cloud Storage • 'ONTAP_S3' - ONTAP S3
s3-name		string	Data bucket/container name
secret-password		string optional	Secret access key for AWS_S3, SGWS and ONTAP_S3 provider types
server		string	Fully qualified domain name of the object store
ssl-enabled		boolean optional	SSL/HTTPS enabled or not. The default value is 'true'.
url-style		object-store-url-style optional	URL style used to access S3 bucket.

Output Name	Range	Type	Description
confirm-warning-		integer[]	Output list with warning codes which have to be confirmed.

codes		optional	
confirm-warning-texts		string[] optional	Output list with warning texts which have to be confirmed.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED	
E_OBJSTORE_CLIENT_INVALID_BUCKET_NAME	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	
E_OBJSTORE_CLIENT_TLS	
E_OBJSTORE_CLIENT_OTHER	
E_AGGREGATE_OBJ_STORE_CREATION_NOT_ALLOWED	
E_AGGREGATE_OBJ_STORE_SERVER_NAME_INVALID	
E_AGGREGATE_OBJECT_STORE_AVAILABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_MAX_LIMIT_REACHED	
E_AGGREGATE_OBJ_STORE_CREATION_NOT_ALLOWED_SDOT	
E_AGGREGATE_OBJ_STORE_AZURE_INVALID_FIELDS	
E_AGGREGATE_OBJ_STORE_NON_AZURE_INVALID_FIELDS	
E_AGGREGATE_OBJ_STORE_IP_AZURE_ACCOUNT_S3_NAME_NOT_UNIQUE	
E_AGGREGATE_OBJ_STORE_AZURE_PROVIDER_NOT_ALLOWED	
E_AGGREGATE_OBJ_STORE_S3_COMPATIBLE_CAPABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_S3_COMPATIBLE_CAPABILITY_NOT_ENABLED	
E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_DOESNT_EXIST	
E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_INCORRECT	
E_AGGREGATE_OBJ_STORE_SERVER_TYPE_MISMATCH	
E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_MUST_BE_ENABLED	
E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_INAPPLICABLE	
E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_WARNING	
E_AGGREGATE_OBJ_STORE_DISABLING_CERTIFICATE_VALIDATION_NOT_ALLOWED	
E_AGGREGATE_OBJ_STORE_URL_STYLE_INVALID	
E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND	

aggr-object-store-config-delete

[top]

Delete an object store configuration

Input Name	Range	Type	Description
object-store-name		string	Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	

aggr-object-store-config-get

[top]

Get the attributes of an object store configuration.

Input Name	Range	Type	Description
desired-attributes		aggr-object-store-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
object-store-name		string	Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.

Output Name	Range	Type	Description
attributes		aggr-object-store-config-info	The attributes of the aggr.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-config-get-iter

[top]

Iterate over a list of object store configurations.

Input Name	Range	Type	Description
desired-attributes		aggr-object-store-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-object-store-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-object-store-config-info[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-object-store-config-modify

[top]

Modify an existing object store configuration.

Input Name	Range	Type	Description
access-key		string optional	Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types
auth-type		string optional	Authentication used to access the object store. Supported values are: • 'key' - Access keys provided by admin • 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP) • 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance • 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance • 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance
azure-account		string optional	Azure account
azure-private-key		string optional	Azure access key
azure-sas-token		string optional	Azure Account Shared Access Signature token
cap-url		string optional	URL to request temporary credentials for a C2S account.

check-only		boolean optional	Do not create a config. Only check that create could succeed.
ignore-warning-codes		integer[] optional	Input list with warning codes which can be ignored.
ipspace		string optional	IPspace to use in order to reach the object store.
is-certificate-validation-enabled		boolean optional	Is SSL/TLS certificate validation enabled. The default value is 'true'.
new-object-store-name		string optional	New object store configuration name
object-store-name		string	Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.
port		integer optional	Port number of the object store
secret-password		string optional	Secret access key for AWS_S3, SGWS and ONTAP_S3 provider types
server		string optional	Fully qualified domain name of the object store
ssl-enabled		boolean optional	SSL/HTTPS enabled or not. The default value is 'true'.
url-style		object-store-url-style optional	URL style used to access S3 bucket.
use-iam-role		boolean optional	Use IAM role for AWS Cloud Volumes ONTAP

Output Name	Range	Type	Description
confirm-warning-codes		integer[] optional	Output list with warning codes which have to be confirmed.
confirm-warning-texts		string[] optional	Output list with warning texts which have to be confirmed.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ELOWMEMORY	
ENODENOTFOUND	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	

E_OBJSTORE_CLIENT_TLS	
E_OBJSTORE_CLIENT_OTHER	
E_AGGREGATE_OBJ_STORE_SERVER_NAME_INVALID	
E_AGGREGATE_OBJECT_STORE_AVAILABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_AZURE_INVALID_FIELDS	
E_AGGREGATE_OBJ_STORE_NON_AZURE_INVALID_FIELDS	
E_AGGREGATE_OBJ_STORE_IP_AZURE_ACCOUNT_S3_NAME_NOT_UNIQUE	
E_AGGREGATE_OBJ_STORE_SERVER_TYPE_MISMATCH	
E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_MUST_BE_ENABLED	
E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_INAPPLICABLE	
E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_WARNING	
E_AGGREGATE_OBJ_STORE_DISABLING_CERTIFICATE_VALIDATION_NOT_ALLOWED	
E_AGGREGATE_OBJ_STORE_URL_STYLE_INVALID	
E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND	

aggr-object-store-config-provider-list

[top]

Returns a list of supported object store providers.

Output Name	Range	Type	Description
available-provider-status		string[] optional	Indicates status (enabled or disabled) of available object store providers
available-providers		string[] optional	List of all available object store providers including those that can be enabled
supported-providers		string[] optional	List of supported object store providers that are enabled

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-get-iter

[top]

Display a list of aggregates which object stores are attached to.

Input Name	Range	Type	Description
desired-attributes		object-store-information optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		object-store-information optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store object. All aggr-object-store objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		object-store-information[] optional	The list of attributes of aggr-object-store objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-object-store objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-object-store-get-resync-status-iter

[top]

Display a list of cloud mirrored FabricPools and their mirror object store resync related info. This information is only available when the aggregate is online.

Input Name	Range	Type	Description
desired-attributes		aggr-object-store-resync-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-object-store-resync-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store object. All aggr-object-store objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-object-store-resync-info[] optional	The list of attributes of aggr-object-store objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-object-store objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-object-store-mirror

[top]

Attaches a second object store to a FabricPool aggregate to create a mirror

Input Name	Range	Type	Description
aggregate		string	Name of the Aggregate
object-store-name		string	Object Store Configuration Name

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ENODENOTFOUND	
E_AGGREGATE_CLOUD_MIRROR_ECV_INVALID	
E_AGGREGATE_NOT_FABRIC_POOL	
E_AGGREGATE_ALREADY_CLOUD_MIRRORED_FABRIC_POOL	
E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED	
E_OBJSTORE_ALREADY_ATTACHED_TO_FABRICPOOL	
E_OBJSTORE_UNMIRRORED_CLEANING_UP_IN_PROGRESS	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED	
E_MIRROR_AGGREGATE_UNMIRROR_IN_PROGRESS	

aggr-object-store-modify

[top]

Modify object store specific parameters.

Input Name	Range	Type	Description
aggregate		string	Name of the aggregate.
force-tiering-on-metrocluster		boolean optional	Force tiering on the primary object store, for FabricPool in a MetroCluster configuration.
migrate-threshold		integer optional	Minimum Aggregate Space Threshold
mirror-type		string optional	Object store mirror type.
object-store-name		string	Name of the object store configuration attached to the aggregate.

Errno	Description
EINTERNALERROR	

EVOLUMEDOESNOTEXIST	
E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED	
E_AGGREGATE_OBJ_STORE_BIN_SIZE_LIMIT_INVALID	
E_AGGREGATE_OBJ_STORE_BAD_UNRECLAIM_THRESHOLD	
E_CAPABILITY_NOT_CLUSTERWIDE	
E_AGGREGATE_FABRICPOOL_NOT_CLOUDMIRRORED	
E_AGGREGATE_OBJ_STORE_NOT_IN_SYNC	
E_AGGREGATE_FAILED_TO_SWAP_MIRROR_TYPE	
E_AGGREGATE_OBJ_STORE_MODIFY_MIRROR_NOT_ALLOWED	
E_AGGREGATE_CAPABILITY_NOT_ENABLED_ON_MCC	
E_AGGREGATE_FP_CLOUD_MIRRORED_IN_MCC	
E_AGGREGATE_FP_MCC_NOT_CONFIGURED	
E_AGGREGATE_FAILED_TO_FORCE_TIER_ON_MCC	

aggr-object-store-profiler-abort

[top]

Abort the object store profiler

Input Name	Range	Type	Description
node		string	Node on Which the Profiler Should Run
object-store-name		string	Object Store Configuration Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-profiler-get-iter

[top]

Get object store profiler status

Input Name	Range	Type	Description
desired-attributes		aggr-object-store-profiler-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-object-store-profiler-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store-profiler object. All aggr-object-store-profiler objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-object-store-profiler-info[] optional	The list of attributes of aggr-object-store-profiler objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-object-store-profiler objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-object-store-profiler-start

[top]

Start the object store profiler to measure latency and throughput

Input Name	Range	Type	Description
node		string	Node on Which the Profiler Should Run
object-store-name		string	Object Store Configuration Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-object-store-unmirror

[top]

Remove the second object store from a mirrored FabricPool

Input Name	Range	Type	Description
aggregate		string	Name of the Aggregate

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ENODENOTFOUND	
E_AGGREGATE_CLOUD_MIRROR_ECV_INVALID	
E_AGGREGATE_NOT_FABRIC_POOL	
E_AGGREGATE_NOT_CLOUD_MIRRORED_FABRIC_POOL	
E_AGGREGATE_PRIMARY_OBJ_STORE_UNAVAILABLE	
E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED	
E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED	
E_OBJSTORE_UNMIRROR_CLEAN_UP_ALREADY_IN_PROGRESS	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	

E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED	
E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED	
E_UNMIRROR_AGGREGATE_DELETED_CLEAN_UP_IN_PROGRESS	
E_UNMIRROR_AGGREGATE_MIRROR_IN_PROGRESS	
E_AGGREGATE_UNMIRROR_TRY_AGAIN	

aggr-object-store-vol-btuuids-get-iter

[top]

Display a list of volume buftree UUIDs in a FabricPool aggregate.

Input Name	Range	Type	Description
desired-attributes		object-store-vol-btuuids-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		object-store-vol-btuuids-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store-vol-btuuids object. All aggr-object-store-vol-btuuids objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		object-store-vol-btuuids-info[] optional	The list of attributes of aggr-object-store-vol-btuuids objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-object-store-vol-btuuids objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-offline

[top]

Take the specified aggregate or plex offline. The operation takes effect before the API returns. Except in maintenance mode, the current root aggregate may not be taken offline. An aggregate marked to become the root aggregate cannot be taken offline. An aggregate containing one or more flexible volumes cannot be taken offline; its contained volumes must first be destroyed. A number of operations being performed on the given aggregate can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the command is aborted. A check is also made for files in the aggregate opened by internal Data ONTAP processes. The command is aborted if any are found.

Input Name	Range	Type	Description
aggregate		string	Name of the existing aggregate or plex to offline, using the following format: [[/vol]/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. If the aggregate hosts any online volumes, then the offline request will fail unless the optional "unmount-volumes" argument (see below) appears and is set to TRUE. If we've been cleared to unmount any such online volumes hosted by the aggregate, the caller may also specify the number of seconds to wait should any of those volumes have active CIFS shares through the optional "cifs-delay-seconds" argument (see below). If a plex name is specified, the plex must be part of a mirrored aggregate, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. For ontap-cluster, plexinfo is being deprecated in lieu of the plex parameter.
cifs-delay-seconds		integer optional	The number of seconds to wait before offlining any volumes that are hosted in the given aggregate that have active CIFS shares (if any). A value of 0 means that all such volumes are to be offlined immediately with no warning. CIFS users can lose data if they aren't given a chance to terminate applications gracefully. By default, "cifs-delay-seconds" is 0. NOTE: This argument may ONLY appear if the "unmount-volumes" argument (see above) also appears and is set to "TRUE".
cloning-disks		boolean optional	The aggregate is being taken offline to initiate disk cloning for fast resync. The offline operation with this flag set is only allowed on mirrored aggregate which has a failed plex. Default value of "cloning-disks" is "false".
force-offline		boolean optional	An aggregate cannot normally be brought offline if it contains a system volume. This behavior is overridden when this option is set "true". Forcing the aggregate offline might impact cross cluster replication. By default "force-offline" is "false".
plex		string optional	Name of a particular plex to offline. If no plex is specified, then the aggregate will be taken offline. If a plex is specified, the plex must be part of a mirrored aggregate, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online.
unmount-volumes		boolean optional	If set to "TRUE", this option specifies that all of the volumes hosted by the given aggregate are to be unmounted before the offline operation is executed. By default, the system will reject any attempt to offline an aggregate that hosts one or more online volumes.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMEBUSY	

aggr-online

[top]

Bring the specified aggregate or plex online. This command takes effect immediately. All volumes on the aggregate are brought to whatever state they were in before the aggregate was restricted or taken offline. If there are CIFS shares associated with the any of the aggregate's volumes that were also onlined, they are enabled.

Input Name	Range	Type	Description
aggregate		string	Name of the existing aggregate or plex to online, using the following format: [/vol/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. If an aggregate is specified, it must currently be offline, restricted, or foreign (consisting of disks moved from another filer, and never having been brought online on the current filer). If the aggregate is foreign, it will be made native before being brought online on the current filer. Aggregates that aren't foreign are termed "native". If the aggregate is inconsistent but has not lost data, it is advisable to run WAFL_check or wafliron (or do a "snapmirror initialize" in case of a replica aggregate) prior to bringing it online. Bringing an inconsistent aggregate online increases the risk of further file system corruption. If the aggregate is inconsistent and has experienced possible loss of data, it can't be brought online unless WAFL_check or wafliron (or snapmirror initialize) is run on it. If a plex is specified, it must be part of an online mirrored aggregate. The system initiates resynchro- nization of the plex as part of online processing. For ontap-cluster, plexinfo is being deprecated in lieu of the plex parameter.
force-online		boolean optional	An aggregate can not normally be brought online under the following conditions: 1. It has only 1 plex that is offline and not up-to-date. 2. It is an unmirrored or CFO aggregate that has been switched over to its DR partner as part of an MCC configuration. This behavior is overridden when this option is set "true". By default, "force-online" is "false".
keep-same-uuid		boolean optional	Keep existing foreign raidtree id (aggregate uuid). Normally when a foreign raidtree is onlined, the raidtree rtid (aggregate uuid) is changed to guarantee uniqueness. The behavior is overridden when this option is set "true." By default, "keep-same-uuid" is "false."
plex		string optional	Name of a particular plex to online. If no plex is specified, then the aggregate will be onlined. If a plex is specified, it must be part of an online mirrored aggregate. The system initiates resynchro- nization of the plex as part of online processing.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
ESYNCMIRROR_NO_PLATFORM	
EVOL_ONLINE_LICENSE_CHECK_PENDING	

aggr-options-list-info

[top]

Get the options that have been set for the specified aggregate. This API does not support listing options of striped aggregate.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate whose options to retrieve. See the synopsis for name/UUID format and restrictions.

Output Name	Range	Type	Description

options		aggr-option-info[]	List of options set for this aggregate.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	

aggr-relocation

[top]

Aggregate Relocation

Input Name	Range	Type	Description
aggregate-list		string[]	List of aggregate names.
destination-node-name		string	Name of destination node where aggregates are to be relocated.
is-ndo-controller-upgrade		boolean optional	Relocation of aggregates as part of controller upgrade. Aggregate relocation will not change home ownership of the aggregates while relocating as part of controller upgrade. Default: false
is-override-destination-checks		boolean optional	Override checks done on destination node. This option could be used to force a relocation of aggregates even if the destination has outstanding issues. Note that this could make the relocation dangerous or disruptive. Default: false
is-override-vetoes		boolean optional	Override veto checks for relocating an aggregate. Initiating aggregate relocation with vetoes overridden will result in relocation proceeding even if the node detects outstanding issues that would make aggregate relocation dangerous or disruptive. Default: false
is-relocate-to-higher-version		boolean optional	Relocate to a node running higher major Data ONTAP version. If an aggregate is relocated to this destination then that aggregate cannot be relocated back to the source node till the source is also upgraded to the same or higher Data ONTAP version. This option is not required if the destination is running on higher minor version but the same major version. Default: false
source-node-name		string	Name of the source node in which aggregate resides.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-relocation-status

[top]

Iterate over the list of aggregate relocation status

Input Name	Range	Type	Description
desired-attributes		aggr-relocation-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		aggr-	

query		relocation-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-relocation-info[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-rename

[top]

Rename the specified aggregate.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate to rename. See the synopsis for name/UUID format and restrictions.
new-aggregate-name		string	The new name desired for the aggregate.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	

aggr-restrict

[top]

Restrict the specified aggregate. An aggregate with one or more flexible volumes cannot be restricted; all of its contained volumes must first be destroyed.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate to restrict. See the synopsis for name/UUID format and restrictions.
cifs-delay-seconds		integer optional	The number of seconds to wait before restricting any volumes that are hosted in the given aggregate that have active CIFS shares (if any). A value of 0 means that all such volumes are to be offlined immediately with no warning. CIFS users can lose data if they aren't given a chance to terminate applications gracefully. By default, "cifs-delay-seconds" is 0. NOTE: This argument may ONLY appear if the "unmount-volumes" argument (see above) also appears and is set to "true".
			If set to "TRUE", this option specifies that all of the volumes hosted by the

unmount-volumes		boolean optional	given aggregate are to be unmounted before the restrict operation is executed. By default, the system will reject any attempt to restrict an aggregate that hosts one or more online volumes.

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

aggr-resync-options-get

[top]

Get aggregate resynchronization options for a node in the cluster

Input Name	Range	Type	Description
desired-attributes		aggr-resync-options-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	Name of the node for which the resynchronization option is defined

Output Name	Range	Type	Description
attributes		aggr-resync-options-info	The attributes of the aggr.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-resync-options-get-iter

[top]

Get aggregate resynchronization options for each node in the cluster

Input Name	Range	Type	Description
desired-attributes		aggr-resync-options-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aggr-resync-options-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-resync-options-info[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-resync-options-set

[top]

Modify aggregate resynchronization options for a node in the cluster

Input Name	Range	Type	Description
max-concurrent-resyncs-allowed	**[1..200]**	integer optional	The number of aggregates, owned by the specified node, that are allowed to resync at a time
node		string	Name of the node for which the resynchronization option is defined

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

aggr-scrub-list-info

[top]

Get the status of parity scrubbing on the named aggregate. Status includes percentage complete and the scrub's suspended status (if appropriate). If an aggregate or node is not given, then status is generated for all RAID groups.

Input Name	Range	Type	Description
aggregate		string optional	Name or UUID of the entity to show scrubbing status for. See the synopsis for name/UUID format and restrictions.
node		string optional	Name of the node.
verbose		boolean optional	If set to "true", this operation will be verbose. If not supplied or set to false, normal output levels will be used.

Output Name	Range	Type	Description
scrub-details		scrub-detail-info[] optional	List of RAID groups and their scrub status.

Errno	Description
EINTERNALERROR	

aggr-scrub-resume

[top]

Resume parity scrubbing on the named aggregate, plex, or RAID group. If an aggregate or node is not given, then resume parity scrubbing on all RAID groups for which it has been suspended. Use "aggr-scrub-list-info" to check scrubbing status.

Input Name	Range	Type	Description
aggregate		string optional	Name or UUID of the entity for which scrubbing is to resume. See the synopsis for name/UUID format and restrictions.
node		string optional	Name of node.
plex		string optional	If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input.
raidgroup		string optional	If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs.

Errno	Description
EINTERNALERROR	

aggr-scrub-start

[top]

Start parity scrubbing on the named aggregate, plex, or RAID group. Parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If an aggregate or node is not given, then parity scrubbing is started on all online aggregates. If an aggregate name is given, scrubbing is started on all RAID groups in the aggregate. If a plex name is given, scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, scrubbing is started only on that group. Use "aggr-scrub-list-info" to check scrubbing status. If a node is given, scrubbing is started on all raid groups on that node.

Input Name	Range	Type	Description
aggregate		string optional	Name or UUID of the entity for which scrubbing is to start. See the synopsis for name/UUID format and restrictions.
node		string optional	Name of node.
plex		string optional	If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input.
raidgroup		string optional	If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs.

Errno	Description
EINTERNALERROR	

aggr-scrub-stop

[top]

Stop parity scrubbing on the named aggregate, plex, or RAID group. If an aggregate or node is not given, scrubbing will stop on all RAID groups currently being scrubbed. Use "aggr-scrub-list-info" to check scrubbing status.

Input Name	Range	Type	Description
aggregate		string optional	Name or UUID of the entity for which scrubbing is to stop. See the synopsis for name/UUID format and restrictions.
node		string optional	Name of node.
plex		string optional	If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input.
raidgroup		string optional	If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs.

Errno	Description
EINTERNALERROR	

aggr-scrub-suspend

[top]

Suspend parity scrubbing on the named aggregate, plex, RAID group, or node. If an aggregate or node is not given, suspend scrubbing on all RAID groups currently being scrubbed. Use "aggr-scrub-list-info" to check scrubbing status.

Input Name	Range	Type	Description
aggregate		string optional	Name or UUID of the entity for which scrubbing is to suspend. See the synopsis for name/UUID format and restrictions.
node		string optional	Name of node.
plex		string optional	If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input.
raidgroup		string optional	If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs.

Errno	Description
EINTERNALERROR	

aggr-set-option

[top]

Set the specified option for the given aggregate to "option-value". The change remains effective even if the filer is rebooted. Some options have values that are numbers, and some have values that are "on" (also expressible as "yes", "true", or "1") or "off" (also expressible as "no", "false", or "0"). A mixture of uppercase and lowercase characters may be used when typing an option's value. Note that the "root" option is special in that it doesn't have a corresponding value. This API does not support modifying options of striped aggregate.

Input Name	Range	Type	Description
aggregate		string	Name or UUID of the aggregate whose option to be set. See the synopsis for name/UUID format and restrictions.
			Option name. Possible values: "free_space_realloc" (value: "on" | "off" | "no_redirect") Setting this option to "on" enables free space reallocation (continuous segment cleaning) on a block checksum aggregate. Possible values : on, off, no_redirect "on" : Free space reallocation enabled with automatically starting the redirect scanner "off": Free space reallocate disabled "no_redirect": Free space reallocation enabled without running the redirect

scanner The default value for this option is "off"

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when the mirror is broken on a SnapMirrored aggregate or when a "storage aggregate add" is performed on it. This option is automatically set to be "on" when an aggregate becomes SnapMirrored. This option allows an embedded aggregate to be SnapMirrored back to the source without needing to add disks to the source aggregate. If the aggregate size is larger than the file system size, turning off this option forces the file system to grow to the size of the aggregate. This option is not supported when the request is sent to the Admin Vserver LIF.

"ha_policy" (value: "cfo" | "sfo")
This option is used to change the HA policy of given aggregate and restricted to clustered environments. It is not allowed in unclustered environments. Changing the HA policy of an aggregate from SFO to CFO is allowed only in Maintenance mode. HA policy can not be changed if: 1. aggregate is striped. 2. aggregate contains node volumes. 3. aggregate is root. 4. aggregate is partner aggregate during takeover i.e. when it is not home to local node. EOP_CLUSTER_ATTR_DISALLOWED is returned if this option is used in unclustered environments.
EOP_DISALLOWED_ON_STRIPED_AGGR is returned if this option is used with striped aggregate. EOP_DISALLOWED_ON_AGGR_WITH_NODE_VOLS is returned if this option is used on aggregate which contains node volumes. EOP_DISALLOWED_ON_ROOT_AGGR is returned if this option is used on root aggregate. EOP_DISALLOWED_ON_NOT_HOME_AGGR is returned if this option is used on partner aggregate during takeover.

"ignore_inconsistent" (value: "on" | "off")
This command can only be used in maintenance mode. If this option is set to "on", then the root aggregate may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency. This option is not supported when the request is sent to the Admin Vserver LIF.

"max_write_alloc_blocks" (value: value: < number >)
The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks"

"striping" (value: "striped" | "not_striped")
This option sets the striping information of given aggregate. It is restricted to clustered environments and not allowed in unclustered environments. When set to true, it marks given aggregate as member of stripe. This option is not allowed if given aggregate is of 'cfo' HA policy.
EOP_CLUSTER_ATTR_DISALLOWED is returned if this option is used in unclustered environments. EOP_DISALLOWED_ON_CFO_AGGR is returned if given aggregate is of 'cfo' HA policy. This option is not supported when the request is sent to the Admin Vserver LIF.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the aggregate.

"raid_cv" (value: "on" | "off")
Setting this option to "off" disables block or advanced_zoned checksum (azcs) protection on the aggregate. The default is "on". The user is cautioned that turning off this option exposes the filesystem(s) contained in the aggregate to inconsistency that could be caused by a misbehaving hardware component in the system.

option-name		string	"raid_lost_write" (value: "on" | "off") Setting this option to "off" disables RAID Lost Write protection on the aggregate. The default is "on". The user is cautioned that turning off this option may expose the filesystem(s) contained in the aggregate to data loss and data corruption. The option should not be disabled, unless directed to do so by support personnel. "raidsize" (value: < number >>) The maximum size of a RAID group within the aggregate. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be. "cache_raid_group_size" (value: < number >>) The current maximum size of a SSD RAID group within the hybrid aggregate. This option can only be modified for hybrid aggregate. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the existing SSD RAID group in the future, and how large new SSD RAID groups will be. "raidtype" (value: "raid4" | "raid_dp" | "raid_tec" | "raid0") The type of RAID group used for this aggregate. The "raid4" setting provides one parity disk per RAID group, while "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the aggregate. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins a reconstruction onto a spare disk allocated for the second "dparity" parity disk. Simlarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk. "resyncsnaptime" (value: < number >) Sets the mirror resynchronization snapshot frequency to be the given number of minutes. The default value is 60 (minutes). "root" (value: < none >) The specified aggregate is to become the root aggregate for the filer on the next reboot. This option can be used only in maintenance mode and on only one aggregate at any given time. The existing root aggregate will become a non-root aggregate after the reboot. Until the system is rebooted, the original aggregate will continue to show root as an option, and the new root aggregate will show diskroot as an option. In general, the aggregate that has the diskroot option is the one that becomes the root aggregate following the next reboot. The only way to remove the root status of an aggregate is to set it on another aggregate. In clustered environments, this option is not allowed with aggregates with 'sfo' HA policy as root has to be an aggregate with 'cfo' HA policy. EOP_DISALLOWED_ON_SFO_AGGR is returned if given aggregate is of 'sfo' HA policy. "snapmirrored" (value : "off") If SnapMirror is enabled, the filer auto- matically sets this option to "on". Set this option to "off" with the "snapmirror" command if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable aggregate, and all its volumes are restored to whatever state they were last in. Note that it is not possible to set this option directly through this interface. Rather, it is automatically changed as a side effect of running the appropriate "snapmirror" commands. This option is not supported when the request is sent to the Admin Vserver LIF. "snapshot_autodelete" (value: "on" | "off") Setting this option to "off" disables automatic snapshot deletion on the aggregate.

"thorough_scrub" (value: "on" | "off")
Setting this option to "on" enables thorough scrub on a block checksum aggregate. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"percent_snapshot_space" (value: < number >)
Percentage of total blocks in the aggregate reserved for snapshots.

"nearly_full_threshold" (value: < number >)
Threshold of used space as a percentage of aggregate size for which to emit aggregate nearly full warning. The default value is 95%. The maximum value for this option is 99%. It must be less than the full_threshold. Setting this threshold to 0 disables the alert.

"full_threshold" (value: < number >)
Threshold of used space as a percentage of aggregate size for which to emit aggregate full warning. The default value is 98%. The maximum value for this option is 100%. It must be greater than the nearly_full_threshold. Setting this threshold to 0 disables the alert.

"is_flash_pool_caching_enabled" (value: "true" | "false")
Setting this option to "false" will disable the caching on the Flash Pool while setting "true" will enable the caching again on the Flash Pool. Changing this option will have no effect on individual caching policies associated with the volumes under this Flash Pool.

"hybrid_enabled" (value: "true" | "false")
Setting this option to "true" would mark the aggregate as hybrid_enabled. That means the aggregate can contain a mix of SSDs and HDDs(Hard Disk Drives, e.g., SAS, SATA, and/or FC). The operation can be forced by using the hybrid_enabled_force option for the aggregates having flexvols which cannot be write cached. EAGGR_CANT_UNDO_HYBRID is returned when we are trying to set the option hybrid_enabled to false on an aggregate that already contains a mix of HDDs and SSDs. EAGGR_HYBRID is returned when we are trying to set option hybrid_enabled to true on an aggregate which is already hybrid. EOP_DISALLOWED_WORM_HYBRID_AGGR is returned when we are trying to set option hybrid_enabled to true on an snaplock aggregate. ERAID_HYA_SUPPORT_DISABLED is returned when the partner node in HA pair is running a version of Data ONTAP which does not support hybrid aggregates. EOP_DISALLOWED_ON_SSD_AGGR is returned if this option is used on aggregates created out of SSD disks. EOP_DISALLOWED_HYA_ON_RAID0_AGGR is returned if this option is used on raid0 aggregates. EOP_DISALLOWED_HYA_ON_ZONED_AGGR is returned if this option is used on aggregates with zoned checksums. EOP_DISALLOWED_HYA_ON_LUNS_AGGR is returned if this option used on aggregates created out of LUNs. EOP_DISALLOWED_ON_COMPOSITE_AGGR is returned if this option is used on composite aggregates.

"hybrid_enabled_force" (value: "true" | "false")
Setting this option to "true" would mark the aggregate as hybrid_enabled. That means the aggregate can contain a mix of SSDs and HDDs(Hard Disk Drives, e.g., SAS, SATA, and/or FC). This option is used for force marking of aggregates having flexvols which cannot be write cached as hybrid enabled. FlexVols in the aggregate marked as hybrid enabled using this option which cannot participate in write-caching only have read-caching enabled. All other flexvols in the aggregate can participate in both read and write caching. EAGGR_CANT_UNDO_HYBRID is returned when we are trying to set the option hybrid_enabled_force to false on an aggregate that already contains a mix of HDDs and SSDs. EAGGR_HYBRID is returned when we are trying to set option hybrid_enabled_force to true on an aggregate which is already hybrid.
EOP_DISALLOWED_WORM_HYBRID_AGGR is returned when we are trying

			to set option hybrid_enabled_force to true on an snaplock aggregate. ERAID_HYA_SUPPORT_DISABLED is returned when the partner node in HA pair is running a version of Data ONTAP which does not support hybrid aggregates. EOP_DISALLOWED_ON_SSD_AGGR is returned if this option is used on aggregates created out of SSD disks. EOP_DISALLOWED_HYA_ON_RAID0_AGGR is returned if this option is used on raid0 aggregates. EOP_DISALLOWED_HYA_ON_ZONED_AGGR is returned if this option is used on aggregates with zoned checksums. EOP_DISALLOWED_ON_COMPOSITE_AGGR is returned if this option is used on composite aggregates. "mirror_resync_priority" (value: "low" | "medium" | "high") Modifying this option changes the ordering of resynchronization of mirrored aggregates on a node. By default all data aggregates have a "low" priority. Changing it to "high" or "medium" would mean that the aggregate will be resynchronized before lower priority aggregates. The "storage aggregate resynchronization options" CLI command, or the aggr-resync-options-set ZAPI, can be used to set the number of aggregates that can be resynchronized concurrently on a node. "enable_cold_data_reporting" (value: "true" | "false") Setting this option to "true" would enable inactive data reporting on the specified aggregate. Setting this option to "false" would disable inactive data reporting. This option can only be set on non-FabricPool aggregates which are FabricPool compatible.
option-value		string	The value to set the named option. It may be the NULL/empty value only in the case of the "root" option.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAGGR_CANT_UNDO_HYBRID	
EAGGR_HYBRID	
ERAID_HYA_SUPPORT_DISABLED	
EOP_CLUSTER_ATTR_DISALLOWED	
EOP_DISALLOWED_ON_CFO_AGGR	
EOP_DISALLOWED_ON_SFO_AGGR	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EOP_DISALLOWED_ON_AGGR_WITH_NODE_VOLS	
EOP_DISALLOWED_ON_ROOT_AGGR	
EOP_DISALLOWED_ON_NOT_HOME_AGGR	
EOP_DISALLOWED_WORM_HYBRID_AGGR	
EOP_DISALLOWED_ON_SSD_AGGR	
EOP_DISALLOWED_HYA_ON_RAID0_AGGR	
EOP_DISALLOWED_HYA_ON_ZONED_AGGR	
EOP_DISALLOWED_HYA_ON_LUNS_AGGR	
ECIFS_HAVE_MIRRORED_LOCKS	
EAGGR_CANT_WRITE_CACHE_INCOMPATIBLE_FS	
EAGGR_CANT_WRITE_CACHE_FLEXVOLS	
ERAID_HYA_PLATFORM_NOT_SUPPORTED	
ECACHE_SIZE_AGGR_NOT_HYBRID	
EOP_DISALLOWED_ON_COMPOSITE_AGGR	

aggr-space-get-iter

[top]

Display a list of aggregates and a breakup of their used space. This information is only available when the aggregate is online. Some fields are expensive to compute, and if the system is under load, the information may not be returned. Best practice would be to only request the fields needed.

Input Name	Range	Type	Description
desired-attributes		space-information optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		space-information optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-space object. All aggr-space objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		space-information[] optional	The list of attributes of aggr-space objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr-space objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-space-list-info

[top]

Show the space usage of the aggregate on a per flexible volume basis. This API is deprecated in Data ONTAP 8.2 and later. Use the aggr-space-info attributes in the aggr-list-info API for details related to aggregate space usage. Use volume-space-list-info and volume-footprint-list-info APIs for details related to volume space usage.

Input Name	Range	Type	Description
aggregate		string optional	The aggregate to get the space information for. If not specified the space information for all aggregates is obtained.

Output Name	Range	Type	Description
aggregates		aggr-space-info[]	Various counts describing space usage in the aggregate.

Errno	Description
EINTERNALERROR	

aggr-spare-get-iter

[top]

Iterate over a list of spare disks

Input Name	Range	Type	Description
desired-attributes		aggr-spare-disk-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 2000
query		aggr-spare-disk-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-spare-disk-info[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-split

[top]

Remove the specified plex from a mirrored aggregate and create a new unmirrored aggregate with the specified name that contains the plex. The original mirrored aggregate thus becomes unmirrored. The plex to be split from the original aggregate must be functional (not partial), but it can otherwise be inactive, resyncing, or out-of-date. "Aggr split" can therefore be used to gain access to a plex that isn't up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting aggregate will be offline. Otherwise, the resulting aggregate will be in the same online/offline/restricted state as the original aggregate. A split mirror can be joined back together via the "victim-aggregate" option to "aggr-mirror".

Input Name	Range	Type	Description
aggregate		string	Name of the plex to split out of its aggregate, using the following format: [/vol/][][]
new-aggr-name		string	Name of the new aggregate to create from the split plex.

Errno	Description

EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEDOESNOTEXIST	

aggr-status-get-iter

[top]

Aggregate enumeration ZAPI. Get status and topology information about one or more aggregates from RAID subsystem.

Input Name	Range	Type	Description
desired-attributes		aggr-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 2000
query		aggr-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aggr-status-info[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

aggr-verify-list-info

[top]

Get the status of RAID mirror verification on the named aggregate. Status includes percentage complete and whether it's currently suspended.

Input Name	Range	Type	Description
aggregate		string optional	Name of an existing aggregate. If no name is given, then mirror verification status is generated for all aggregates currently being verified. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.

Output Name	Range	Type	Description
		verify-	

verify-details		detail-info[] optional	List of aggregates and their mirror verification status.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	

aggr-verify-resume

[top]

Resume RAID mirror verification on the named aggregate. If no name is given, then resume mirror verification on all aggregates that have been suspended.

Input Name	Range	Type	Description
aggregate		string optional	Name of the existing aggregate for which mirror verification is to resume. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.

Errno	Description
EINTERNALERROR	

aggr-verify-start

[top]

Start RAID mirror verification on the named aggregate. Verification compares the data in both plexes of a mirrored aggregate. In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then mirror verification is started on all online aggregates. Use the "aggr-verify-list-info" API to check mirror verification status. If the fix-plex option is used, then a name must be specified.

Input Name	Range	Type	Description
aggregate		string optional	Name of the mirrored aggregate to verify. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.
fix-plex		integer optional	If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them.
log-only		boolean optional	If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored.

Errno	Description
EINTERNALERROR	

aggr-verify-stop

[top]

Stop RAID mirror verification on the named aggregate. If no name is given, stop mirror verification on all aggregates currently being verified.

Input Name	Range	Type	Description

aggregate		string optional	Name of the aggregate for which we are to stop mirror verification. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.

Errno	Description
EINTERNALERROR	

aggr-verify-suspend

[top]

Suspend RAID mirror verification on the named aggregate. If no name is given, suspend mirror verification on all aggregates currently being verified.

Input Name	Range	Type	Description
aggregate		string optional	Name of the aggregate for which we are to suspend mirror verification. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions.

Errno	Description
EINTERNALERROR	

Element definition: **aggr-attributes**

[top]

Attributes of an aggregate. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-64bit-upgrade-attributes		aggr-64bit-upgrade-attributes optional	Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available.
aggr-fs-attributes		aggr-fs-attributes optional	This field contains file system related information about the aggregate. This information will not be returned for a striped aggregate.
aggr-inode-attributes		aggr-inode-attributes optional	This field contains inode related information about the aggregate. This information will not be returned for a striped aggregate.
aggr-ownership-attributes		aggr-ownership-attributes optional	This field contains ownership related information about the aggregate. This information will not be returned for a striped aggregate.
aggr-performance-attributes		aggr-performance-attributes optional	This field contains performance related informtaion about the aggregate.
aggr-raid-		aggr-raid-	

attributes		attributes optional	This field contains RAID specific information of the aggregate
aggr-snaplock-attributes		aggr-snaplock-attributes optional	This field contains snaplock specific information of the aggregate
aggr-snapmirror-attributes		aggr-snapmirror-attributes optional	This field contains snapMirror specific information of the aggregate This information will not be returned for a striped aggregate.
aggr-snapshot-attributes		aggr-snapshot-attributes optional	This field contains snapshot specific information of the aggregate. This information will not be returned for a striped aggregate.
aggr-space-attributes		aggr-space-attributes optional	This field contains space specific information of the aggregate
aggr-striping-attributes		aggr-striping-attributes optional	This field contains striping specific information of the aggregate This information is returned only if aggregate is striped.
aggr-volume-count-attributes		aggr-volume-count-attributes optional	This field contains various counts information of volume in the aggregate.
aggr-wafliron-attributes		aggr-wafliron-attributes optional	This field contains wafliron specific information of the aggregate
aggregate-name		string optional	Name of the aggregate.
aggregate-uuid		string optional	Aggregate's Universal Unique IDentifier. UUIDs are 16-byte quantities that are typically displayed as having five hexadecimal fields separated by hyphens. For example: d2da3566-da53-11d7-a841-000100000529
autobalance-available-threshold-percent	**[0..99]**	integer optional	The threshold when an aggregate is considered balanced by the Auto Balance Aggregate feature.
autobalance-state		autobalance-aggregate-state optional	The state of the aggregate being balanced. Possible values: • "disabled" - Auto Balance Aggregate is disabled, • "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark. • "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark., • "ineligible" - Ineligible The states excluded, balanced and unbalanced are available only when Auto Balance Aggregate is enabled.
autobalance-state-change-counter		integer optional	The number of times an aggregate has been transitioned from balanced to unbalanced and vice-versa.
autobalance-unbalanced-threshold-percent	**[1..100]**	integer optional	The threshold when an aggregate is considered unbalanced by the Auto Balance Aggregate feature.

inactive-data-reporting-start-timestamp		integer optional	Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1].
is-autobalance-eligible		boolean optional	When set to 'true', the aggregate is included in Auto Balance aggregate processing. When set to 'false' the aggregate is excluded from Auto Balance Aggregate processing.
is-cft-precommit		boolean optional	When set to 'true', the aggregate is a 7-mode transitioned aggregate in pre-commit phase.
is-inactive-data-reporting-enabled		boolean optional	"true" if the inactive data reporting is enabled on an aggregate, "false" otherwise.
is-object-store-attach-eligible		boolean optional	When set to 'true', the aggregate is is eligible to have an object store attached to it.
is-transition-out-of-space		boolean optional	When set to 'true', the aggregate is a 7-mode transitioned aggregate that is not yet committed on C-mode, and is currently out of space.
nodes		node-name[] optional	List of node names. If aggregate-name is also specified, then the matching aggregate on given nodes is returned. If not, all aggregates on specified nodes are returned. If this element is omitted when the request is sent to the Admin Vserver LIF, then all matching aggregates in the cluster are returned.
striping-type		string optional	Specifies the striping information about the aggregate. Possible values are "not_striped", "striped", and "unknown"

Element definition: **aggr-autobalance-aggregate-state**

[top]

State related to each aggregate monitored by Auto Balance Aggregate. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of the aggregate. Attributes: key, non-creatable, non-modifiable
autobalance-threshold		size optional	Threshold used by AutoBalance aggregate to determine if an aggregate is eligible for balancing, in bytes. Attributes: non-creatable, non-modifiable
incoming-volume-size		size optional	Size of volumes that are moving towards the aggregate, in bytes. Attributes: non-creatable, non-modifiable
is-balanceable		boolean optional	Indicates if the aggregate should be balanced. Attributes: non-creatable, non-modifiable
is-considered-for-balance		boolean optional	Indicates if the aggregate should be considered for balancing.

			Attributes: non-creatable, non-modifiable
is-hybrid		boolean optional	Is a hybrid aggregate. Attributes: non-creatable, non-modifiable
node		node-name optional	Node the aggregate resides on. Attributes: key, non-creatable, non-modifiable
outgoing-volume-size		size optional	Size of volumes that are moving away from the aggregate, in bytes. Attributes: non-creatable, non-modifiable
raidtype		raid-type optional	RAID type of the aggregate. Attributes: non-creatable, non-modifiable
total-size		size optional	Total size of the aggregate in bytes. Attributes: non-creatable, non-modifiable
used-size		size optional	Used size of the aggregate in bytes. Attributes: non-creatable, non-modifiable

Element definition: **aggr-autobalance-config**

[top]

Configuration of Auto Balance Aggregate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
available-threshold-percent	**[0..99]**	integer optional	When Auto Balance Aggregate identifies an aggregate that needs to be balanced, it will attempt to identify other target aggregates it can move volumes to. An aggregate will only be considered as a target if its projected space usage after the move is still under this percentage. Auto Balance Aggregate will attempt to move volumes from an unbalanced aggregate until it is under this percentage. The default value is 40%. Attributes: non-creatable, modifiable
hold-duration-after-move		time-interval optional	This value represents the number of seconds that need to have elapsed since the volume was last moved before it will be considered a movable candidate again. The default value is 48 hours. Attributes: non-creatable, modifiable
is-enabled		boolean optional	'true' if Auto Balance Aggregate is enabled. 'false' if Auto Balance Aggregate is disabled. Attributes: non-creatable, modifiable
move-mode		string	For all modes, Auto Balance Aggregate will identify the volume moves that will help to balance space usage across the aggregates. The mode dictates what Auto Balance Aggregate will do with the suggested moves. In 'recommend' mode, the suggested moves will be displayed, but no further action will be taken .In 'auto' mode, Auto Balance Aggregate will trigger moves to start. The default mode is 'recommend'.

		optional	Attributes: non-creatable, modifiable Possible values: • "auto" , • "recommend"
state-polling-interval		time-interval optional	Polling period, in seconds, used by Auto Balance Aggregate to update volume and aggregate state. The default value is 3600 seconds. Attributes: non-creatable, modifiable
unbalanced-threshold-percent	**[1..100]**	integer optional	This percentage will indicate the space used threshold that will cause Auto Balance Aggregate to consider this aggregate as unbalanced. The default value is 60%. Attributes: non-creatable, modifiable
volume-activity-threshold	**[0..2^32-1]**	integer optional	The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second. Attributes: non-creatable, modifiable
volume-inactive-delay-threshold		time-interval optional	This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours. Attributes: non-creatable, modifiable

Element definition: **aggr-autobalance-notification**

[top]

Notifications for nodes that need to be balanced. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
notifying-node		node-name optional	The node that contains the aggregate which is considered a candidate for Auto Balance Aggregate. Attributes: key, required-for-create, non-modifiable

Element definition: **aggr-autobalance-volume-state**

[top]

The state related to each volume monitored by Auto Balance Aggregate. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a

value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	The aggregate that contains the volume. Attributes: non-creatable, non-modifiable
dsid	**[0..2^64-1]**	integer optional	The dsid of the volume. Attributes: key, non-creatable, non-modifiable
is-volume-moving		boolean optional	Indicates if volume is currently moving. Attributes: non-creatable, non-modifiable
is-volume-quiesced		boolean optional	Indicates if volume is currently quiesced. Attributes: non-creatable, non-modifiable
last-time-threshold-exceeded		datetime optional	Timestamp related to when we exceeded the threshold of operations for the volume. Attributes: non-creatable, non-modifiable
last-time-was-placed		datetime optional	Timestamp related to when the volume was last moved. Attributes: non-creatable, non-modifiable
node		node-name optional	The node the volume resides on. Attributes: key, non-creatable, non-modifiable
volume-name		string optional	The name of the volume. Attributes: non-creatable, non-modifiable
volume-total-size		size optional	Total size of the volume, in bytes. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-cumulated-info**

[top]

Aggregate Storage Efficiency Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-efficiency-cumulated-additional-details-info		aggr-efficiency-cumulated-additional-details-info	Additional details related to storage efficiency in the given aggregates.
aggr-efficiency-cumulated-aggr-info		aggr-efficiency-cumulated-aggr-info	Storage efficiency achieved at the aggregate level using techniques like data compaction.

		optional	
aggr-efficiency-cumulated-snapshot-and-flexclone-info		aggr-efficiency-cumulated-snapshot-and-flexclone-info	Aggregated information of storage efficiency of Snapshot copies and FlexClone volumes in the given aggregates.
aggr-efficiency-cumulated-volume-info		aggr-efficiency-cumulated-volume-info optional	Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.
aggr-efficiency-total-cumulated-info		aggr-efficiency-total-cumulated-info optional	cumulated storage efficiency information from the given aggregates.

Element definition: **aggr-efficiency-info**

[top]

Aggregate Storage Efficiency Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-efficiency-additional-details-info		aggr-efficiency-additional-details-info optional	Additional details related to storage efficiency in this aggregate.
aggr-efficiency-aggr-info		aggr-efficiency-aggr-info optional	Storage efficiency achieved at the aggregate level using techniques like data compaction.
aggr-efficiency-cumulative-info		aggr-efficiency-cumulative-info optional	Cumulative storage efficiency information of an aggregate.
aggr-efficiency-snapshot-and-flexclone-volume-info		aggr-efficiency-snapshot-and-flexclone-volume-info	Aggregated information of storage efficiency of Snapshots and FlexClone volumes in the aggregate.
aggr-efficiency-volume-info		aggr-efficiency-volume-info optional	Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.
aggregate		string optional	Name of the aggregate. Attributes: key, non-creatable, non-modifiable
node		string optional	Name of the node where the aggregate resides. Attributes: non-creatable, non-modifiable

Element definition: **aggr-info**

[top]

Aggregate status information.

Name	Range	Type	Description
aggr-64bit-upgrade		aggr-64bit-upgrade-info optional	Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available.
aggregate-space-details		aggregate-space-info optional	Contains all size-related information for the aggr and its set of snapshots.
azcs-read-optimization		string optional	Indicates if azcs read optimization is enabled and available on the aggreagte. This feature is supported only on Cloud ONTAP or FSx. Possible values: "on", "off" • "on" : azcs read optimization is enabled and available • "off" : azcs read optimization is disabled. The default value is "on"
azcs-read-optimization-enabled		boolean optional	Is azcs read optimizaion enabled for the aggregate in SDOT ?
block-type		string	The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit
cache-raid-group-size		integer	Current maximum cache RAID group size of hybrid aggregate. Range : [1..28]. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true.
checksum-status		string	Checksum status. Possible values: "active", "off", "reverting", "none", "unknown", "initializing", "reinitializing", "reinitialized", "upgrading_phase1", "upgrading_phase2"
checksum-style		string	Checksum style. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown • "wafl" - wafl, • "zoned" - zoned (this value is no longer supported).
creation-timestamp		integer optional	Timestamp of aggregate creation. Range : [0..2^32-1].
disk-count		integer	Number of disks in the aggregate. Range: [0..2^31-1].
dr-home-dblade-id		string optional	Dblade ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of dr-home-id.
dr-home-id	**[0..2^32-1]**	integer optional	NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info'
dr-home-name		string optional	Name of the DR node to which this aggregate's disks have been administratively assigned.
drive-protection-enabled		boolean	Indicates the aggregate is entirely composed of self-encrypting drives with data protection enabled.
effective-disk-type		string optional	Effective type of disks in aggregate: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, unknown. For hybrid aggregate this represents effective disk type of HDD raidgroups.

encrypt-with-aggr-key		boolean optional	If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption).
files-private-used		integer	Number of system (not user-visible) files used. Range: [0..2^64-1].
files-total		integer	Total count of user-visible files. Range: [0..2^64-1].
files-used		integer	Number of user-visible files used. Range: [0..2^64-1].
free-space-realloc		string optional	Indicate if free space reallocation (continuous segment cleaning) is enabled on a specific aggregate. Possible values: on, off, no_redirect "on" (Free space reallocation enabled with automatically starting the redirect scanner) "off" (Free space reallocation disabled) "no_redirect" (Free space reallocation enabled without running the redirect scanner) The default value for this option is "off"
fsid		integer optional	Aggregate's File System IDentifier. Range: [0..2^32-1]
ha-policy		ha-policy-type optional	Aggregate's HA policy. Possible return values: "cfo", "sfo", "none"
has-local-root		boolean	Whether the aggregate contains the local root volume.
has-partner-root		boolean	Whether the aggregate contains the partner's root volume.
home-dblade-id		string optional	Dblade ID of the node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of home-id.
home-id		integer optional	NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1].
home-name		string optional	Name of the node to which this aggregate's disks have been administratively assigned.
hybrid-cache-tier-disk-count		integer optional	Disk count of hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true.
hybrid-cache-tier-raid-type		string optional	Raid type for hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true.
inactive-data-reporting-start-timestamp		integer optional	Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1].
inodefile-private-capacity		integer	Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0..2^64-1].
inodefile-public-capacity		integer	Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0..2^64-1].
inofile-version		integer	The inofile-version of the aggregate. Range: [0..2^32-1].
is-checksum-enabled		boolean	Is checksumming enabled for the aggregate?
is-composite		boolean optional	If true, aggregate currently contains two tiers of storage.
is-fabricpool-mirrored		boolean optional	If true, aggregate currently contains two copies of the capacity tier.
is-hybrid		boolean optional	If true, aggregate currently contains both SSD and non-SSD RAID groups.
is-hybrid-		boolean	If true, aggregate is eligible to contain both SSD and non-SSD RAID

enabled		optional	groups.
is-inconsistent		boolean	Whether or not the aggregate is inconsistent.
is-mirrored		boolean optional	If true, aggregate is mirrored.
is-nve-capable		boolean optional	If true, the aggregate is capable of supporting NVE.
is-root-aggregate		boolean	Whether this is a root aggregate. This differs from has-local-root and has-partner-root by evaluating true when the aggregate may contain a root volume for any node. The has-local-root and has-partner-root fields only evaluate true when the aggregate contains the active root for the specified node. The is-root-aggregate field will still evaluate true for an offline root aggregate. The has-local-root and has-partner-root fields will evaluate false, since the aggregate has no mounted filesystem.
is-snaplock		boolean	Whether or not it's a SnapLock aggregate.
is-transition-out-of-space		boolean	Whether this is a 7-to-C transitioned aggregate that is not yet committed on C-mode, and is currently out of space.
is-transitioned-aggregate		boolean	Whether this is a 7-to-C transitioned aggregate that is not yet committed on C-mode.
licensed-plex-capacity		integer optional	This field represents the sum of the raw sizes of all non-parity disks in an aggregate. This is not necessarily the final capacity licensed for the aggregate. The license manager may double this for a mirrored aggregate or ignore it for a root aggregate. Range : [0..2^64-1]
max-write-alloc-blocks		integer optional	The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks"
mirror-status		string	Aggregate's mirror status. Possible values: invalid, uninitialized, needs CP count check, CP count check in progress, unmirrored, mirrored, mirror degraded, mirror resynchronizing, failed, limbo, and .
mount-state		string optional	[not settable, always] This field shows the volume's mount state. Possible values: "unmounted", "online", "frozen", "destroying", "creating", "mounting", "unmounting", "inconsistent", "reverted", "quiescing", "quiesced", "iron_restricted"
name		string	Aggregate name.
owner-id		integer optional	NVRAM ID of node which currently owns this aggregate's disks. Normally, home-id matches owner-id. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-id. CFO takeover and giveback do not affect owner-id. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1].
owner-name		string optional	Name of node which currently owns this aggregate's disks. Normally, home-name matches owner-name. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-name. CFO takeover and giveback do not affect owner-name.
plex-count		integer	Number of plexes in the aggregate. This value tells us the size of the returned "plex" array. Range: [0..2^31-1].
plexes		plex-info[]	List of plexes in the aggregate.
primary-checksum-style		string optional	Checksum type of primary tier.
primary-disk-class		string optional	Diskclass of primary tier.
primary-		integer	Disk count of primary tier. For non-hybrid aggregate config, signifies

disk-count		optional	the total disk count. For hybrid config excludes cache-tier count.
primary-raid-type		string optional	Raid type for primary tier.
raid-lost-write-state		string optional	State of the RAID Lost Write feature for an aggregate. The possible values are: • "aborted" - The RAID Lost Write scrub is no longer running and was aborted on all RAID groups in this aggregate, possibly due to an error. • "illegal" - The aggregate contains RAID groups with RAID Lost Write disabled and other RAID groups with RAID Lost Write enabled. This is an invalid state. • "inoperative" - The RAID Lost Write scrub is allowed on the aggregate, but it cannot start because the system-wide RAID Lost Write option "raid.lost_write.enable" is set to "off". • "off" - RAID Lost Write protection and scrub are disabled on this aggregate. • "on" - The aggregate is RAID Lost Write protected and that the RAID Lost Write scrub completed successfully on all RAID groups in this aggregate. • "partial" - The RAID Lost Write scrub completed successfully on some of the RAID groups in this aggregate, but was aborted on at least one of the RAID groups. • "unknown" - The RAID Lost Write scrub status could not be determined. • "upgrade_partial" - The RAID Lost Write scrub is still in progress on some of the RAID groups in this aggregate and was aborted on at least one of the RAID groups. • "upgrading" - The RAID Lost Write scrub is still not completed or not yet started on at least one of the RAID groups in this aggregate.
raid-size		integer	Current RAID group size. Range : [0..2^31-1].
raid-status		string	RAID status. Possible values: "copying", "degraded", "foreign", "growing", "hybrid", "hybrid_enabled", "initializing", "invalid", "ironing", "mirror degraded", "mirrored", "mixed_raid_type", "needs check", "normal", "noparity", "out-of-date", "parity uninit'd", "partial", "raid0", "raid4", "raid_dp", "raid_tec", "reconstruct", "resyncing", "tier_unavailable", "verifying". These values may appear by themselves or in combination separated by commas (e.g., "mixed_raid_type, hybrid, normal"). An aggregate could be of only one of the following RAID types: • "raid0" - All the raid groups in the aggregate are of type raid0, • "raid4" - All the raid groups in the aggregate are of type raid4, • "raid_dp" - All the raid groups in the aggregate are of type raid_dp, • "raid_tec" - All the raid groups in the aggregate are of type raid_tec, • "mixed_raid_type" - This aggregate contains RAID groups of different RAID types (raid0, raid4, raid_dp, raid_tec).
size-available		integer	Available bytes in the aggregate. Range: [0..2^64-1].
size-percentage-used		integer optional	Percentage of aggregate used. This value is not returned if the aggregate is unusable (i.e., it's offline). Range : [0..100].
size-total		integer	Aggregate total usable size in bytes, not including WAFL reserve and aggregate snapshot reserve. If the aggregate is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
size-used		integer	Aggregate bytes used. This value is not returned if the aggregate is unusable (i.e., it's offline). Range: [0..2^64-1].

snaplock-type		string optional	The type of the snaplock aggregate. Possible values - "compliance" or "enterprise" or "non-snaplock"
state		string	Aggregate state. The possible values: "creating", "destroying", "failed", "frozen", "inconsistent", "iron_restricted", "mounting", "offline", "online", "partial", "quiesced", "quiescing", "restricted", "reverted", "unknown", "unmounted", "unmounting".
striping		striping-type optional	Specifies the striping information about the aggregate. Possible values are "striped", "not_striped" and "unknown" In unclustered environments, all aggregates are not striped. In clustered environments, aggregates can be either striped or not striped. When striping information is not known, "unknown" will be returned.
type		string	The type of aggregate. Possible values: aggr "aggr" (for aggregates that can contain flexible volumes)
uses-data-partitions		boolean optional	If true, aggregate is using data partitions.
uses-root-partitions		boolean optional	If true, aggregate is using root partitions.
uses-shared-disks		boolean optional	If true, aggregate is using shared disks.
uuid		string	Aggregate's Universal Unique IDentifier. UUIDs are 16-byte quantities that are typically displayed as having five hexadecimal fields separated by hyphens. For example: d2da3566-da53-11d7-a841-000100000529
volume-count		integer	Number of volumes in the aggregate. Range: [0..2^31-1].
volume-count-collective		integer optional	Number of striped volume constituents in the aggregate which also represent a collective striped volume. This field is for internal use only. Range: [0..2^31-1].
volume-count-mirrors		mirror-count-info optional	Various counts information for mirror volumes in the aggregate. This information is returned only when the aggregate contains mirror volumes.
volume-count-not-online		integer optional	When present, this field indicates the number of volumes that are not online (offline and restricted volumes). Range: [0..2^31-1]
volume-count-quiesced		integer optional	When present, this field indicates the number of quiesced online volumes. Range: [0..2^31-1]
volume-count-striped		integer optional	Number of striped volume constituents in the aggregate. These volumes are also reported in the full volume-count value. This field is for internal use only. Range: [0..2^31-1].
volumes		contained-volume-info[]	List of volumes contained the aggregate.
wafl-reserve-percent		integer optional	Percent of aggr raw capacity that WAFL reserves Range: [0..100].
wafliron		aggr-wafliron-info optional	Information related to wafliron, the online WAFL file system check/repair tool. This information is returned only when wafliron specific information is available.

Element definition: **aggr-object-store-config-info**

[top]

Object Store Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the

caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-key		string optional	Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types Attributes: optional-for-create, modifiable
auth-type		string optional	Authentication used to access the object store. Supported values are: • 'key' - Access keys provided by admin • 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP) • 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance • 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance • 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance Attributes: optional-for-create, modifiable
azure-account		string optional	Azure account Attributes: optional-for-create, non-modifiable
cap-url		string optional	URL to request temporary credentials for a C2S account. Attributes: optional-for-create, modifiable
ipspace		string optional	IPspace to use in order to reach the object store. Attributes: optional-for-create, modifiable
is-certificate-validation-enabled		boolean optional	Is SSL/TLS certificate validation enabled. The default value is 'true'. Attributes: optional-for-create, modifiable
license-used-percent	**[0..2^32-1]**	integer optional	Percentage of the object store's total licensed capacity used by this config. This field is not returned in MetroCluster configurations or for Cloud Volumes ONTAP. Attributes: non-creatable, non-modifiable
object-store-name		string optional	Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. Attributes: key, required-for-create, non-modifiable
object-store-uuid		string optional	UUID of the object store configuration Attributes: non-creatable, non-modifiable
port	**[0..65535]**	integer optional	Port number of the object store Attributes: optional-for-create, modifiable
provider-type		string optional	Type of object store provider. Allowed values are: • 'AWS_S3' - AWS S3 • 'SGWS' - StorageGRID Webscale • 'Azure_Cloud' - Microsoft Azure Cloud • 'IBM_COS' - IBM Cloud Object Storage • 'AliCloud' - Alibaba Cloud Object Storage Service • 'GoogleCloud' - Google Cloud Storage • 'ONTAP_S3' - ONTAP S3 Attributes: required-for-create, non-modifiable
		string	Data bucket/container name Attributes: required-for-create, non-

s3-name		optional	modifiable
server		string optional	Fully qualified domain name of the object store Attributes: required-for-create, modifiable
ssl-enabled		boolean optional	SSL/HTTPS enabled or not. The default value is 'true'. Attributes: optional-for-create, modifiable
used-space	**[0..2^63-1]**	integer optional	Capacity used in the object store by this config. Attributes: non-creatable, non-modifiable

Element definition: **aggr-object-store-profiler-info**

[top]

Object Store Profiler Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		string optional	Name of the node where the profiler ran. Attributes: key, non-creatable, non-modifiable
object-name-prefix		string optional	Object name prefix. Attributes: non-creatable, non-modifiable
object-store-name		string optional	Name for the object store configuration profiled. Attributes: non-creatable, non-modifiable
op-count	**[0..2^64-1]**	integer optional	Number of operations performed. Attributes: non-creatable, non-modifiable
op-failed	**[0..2^64-1]**	integer optional	Number of operations that failed. Attributes: non-creatable, non-modifiable
op-latency-average	**[0..2^64-1]**	integer optional	Average latency for operation in milliseconds. Attributes: non-creatable, non-modifiable
op-latency-maximum	**[0..2^64-1]**	integer optional	Maximum latency for operation in milliseconds. Attributes: non-creatable, non-modifiable
op-latency-minimum	**[0..2^64-1]**	integer optional	Minimum latency for operation in milliseconds. Attributes: non-creatable, non-modifiable
op-name		string optional	Operation name - PUT/GET. Attributes: non-creatable, non-modifiable
op-size	**[0..2^63-1]**	integer optional	Size of operation. Attributes: non-creatable, non-modifiable
op-throughput	**[0..2^63-1]**	integer optional	Throughput per second for the operation. Attributes: non-creatable, non-modifiable
profiler-status		string optional	Profiler status. Attributes: non-creatable, non-modifiable
start-time		string optional	Profiler start time. Attributes: non-creatable, non-modifiable

Element definition: **aggr-object-store-resync-info**

[top]

Object store mirror resync info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of the aggregate. Attributes: key, non-creatable, non-modifiable
mirror-object-store-name		string optional	This field represents the name of the mirror object store used by the FabricPool. Attributes: non-creatable, non-modifiable
primary-object-store-name		string optional	This field represents the name of the primary object store used by the FabricPool. Attributes: non-creatable, non-modifiable
resync-progress	**[0..100]**	integer optional	This field identifies the resync progress (as a percentage) of the mirror object store from the primary object store of a FabricPool. Attributes: non-creatable, non-modifiable

Element definition: **aggr-option-info**

[top]

Option key and value. The possible values are described in the "aggr-set-option" API below.

Name	Range	Type	Description
name		string	Option key.
value		string	Option value.

Element definition: **aggr-relocation-info**

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Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Aggregate Name Attributes: non-creatable, non-modifiable
destination		string optional	Destination for Relocation Attributes: non-creatable, non-modifiable
			Aggregates Relocation Status Attributes: non-creatable, non-modifiable Possible values include: • Done

relocation-status		string optional	• Failed • In progress • Not attempted yet • Failed: Migration of the aggregate failed • Failed: Node is being shut down • Failed: Aggregate does not have SFO HA policy • Failed: Aggregate is in failed or limbo state. • Failed to offline the aggregate • Failed: Aggregate is being given back or relocated • Failed: Operation was vetoed • No aggregates to relocate • Performing relocation veto checks • check EMS logs • Failed: Node cannot communicate with the destination node • Failed: Destination node did not online the aggregate on time • Failed: Destination node failed to online the aggregate. Check EMS logs on destination node • Failed: Destination cannot receive the aggregate • Failed: Aggregate is restricted • Failed: Aggregate does not have disks • Operation was aborted • Failed: Aggregate is foreign • Failed: Aggregate is offline • Failed: Mirrored aggregate does not have both plexes online • Aborted. Failed to disable background disk firmware updates on the source node. • Aborted. Failed to disable background disk firmware updates on the destination node. • Deferred. Background disk firmware update is in progress on source node. • Deferred. Background disk firmware update is in progress on destination node. • Failed. Migration of a non-SSD aggregate to an All-Flash Optimized destination node is not allowed.
source-node		string optional	Name of the source node in which aggregate resides Attributes: key, non-creatable, non-modifiable

Element definition: **aggr-resync-options-info**

[top]

Aggregate resynchronization options info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
max-concurrent-resyncs-allowed	**[1..200]**	integer optional	The number of aggregates, owned by the specified node, that are allowed to resync at a time Attributes: non-creatable, modifiable
node		string optional	Name of the node for which the resynchronization option is defined Attributes: key, non-creatable, non-modifiable

Element definition: **aggr-simulate-disk-info**

[top]

Information for each disk selected during the simulation of aggregate provisioning operations.

Name	Range	Type	Description
added-to-new-raid-group		boolean optional	Indicates whether disk will be added to new or existing raid group. True if the disk will be added to new raid group. False if the disk will be added to existing raid group.
checksum-type		string optional	Checksum type of the raidgroup to which this disk will be added. Possible values: • "zoned checksum" - (this value is no longer supported) • "wafl checksum" • "block checksum" • "advanced_zoned checksum"
disk-type		string optional	Disk type. Possible values: • "ATA" • "BSAS" • "FCAL" • "LUN" • "MSATA" • "SAS" • "SSD" • "SSD_NVM" • "FSAS" • "VMDISK" • "unknown"
eff-disk-type		string optional	Effective Disk type. Possible values: • "LUN" • "MSATA" • "SAS" • "SSD" • "FSAS" • "VMDISK" • "unknown"
file-system-size		integer optional	File system size of disk (in bytes). Range : [0..2^64-1].
is-disk-shared		boolean optional	Indicates whether the disk is a partitioned disk or a physical disk. True if the disk is a partitioned disk. False if the disk is a physical disk.
name		string	Name of a member disk.
physical-size		integer optional	Raw size of disk (in bytes). Range : [0..2^64-1].
position		string optional	Position of disk within raid group. Possible values: • "tparity" • "dparity" • "parity" • "data"

raid-group-number		integer optional	Raid group number to which this disk will be added.
raid-type		string optional	Raid type of the raidgroup to which this disk will be added. Possible values: • "raid0" • "raid4" • "raid_dp" • "raid_tec"
syncmirror-pool		integer optional	SyncMirror pool 0 or 1. Range : [0..1].

Element definition: **aggr-space-info**

[top]

List of aggregates and their space usage information.

Name	Range	Type	Description
aggregate-name		string	Name of the aggregate.
size-asis-used		integer	Space used by A-SIS metafiles. Range : [0..2^64-1]
size-bssm-nvlog-used		integer optional	Space used by bi-directional Synchronous SnapMirror for NVLOG files. This element will be returned only if the value is not zero. Range : [0..2^64-1]
size-free		integer	Total free space in the aggregate Range : [0..2^64-1]
size-image-backup-used		integer	Space used by Image Backup metafiles. Range : [0..2^64-1]
size-metadata		integer	Total space used by aggregates metadata. Range : [0..2^64-1]
size-nominal		integer	Total space contained in the aggreate minus the wafl reserve space. Range : [0..2^64-1]
size-snap-used		integer	Space used by aggregate snapshots. Range : [0..2^64-1]
size-used		integer	The total used space in the aggregate except the space used by snapshots. Range : [0..2^64-1]
size-volume-allocated		integer	Total space allocated to volumes in the aggregate. Range : [0..2^64-1]
size-volume-used		integer	Total space used by volumes in the aggregate. Range : [0..2^64-1]
volume-count		integer	Count of online virtual volumes in the aggregate. Range : [0..2^64-1]
volumes		volume-space-info[]	List of flexible volumes and their allocated space information.

Element definition: **aggr-spare-disk-info**

[top]

Spare disk Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the

caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
checksum-style		string optional	An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Attributes: non-creatable, non-modifiable Possible values: • "advanced_zoned" - Supports advanced zoned checksum, • "block" - Supports block checksum, • "none" - No checksum support, • "zoned_advanced_zoned" - Supports zoned and advanced zoned checksums
disk		string optional	Name of the spare disk. Attributes: non-creatable, non-modifiable
disk-class		string optional	Disk class. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown disk class., • "capacity" - Capacity-oriented, near-line disk types. Includes disk types BSAS, FSAS and ATA., • "performance" - Performance-oriented, enterprise class disk types. Includes disk types SAS and FCAL., • "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA., • "solid_state" - Solid-state drives. Includes disk type SSD, SSD-CAP and SSD-NVM., • "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN., • "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK., • "data_center" - Data center grade solid-state drives. Includes the disktype SSD-DC, • "virtual_lun" - Virtual LUNs that is used in the ONTAP Select shared HA, • "virtual_lunssd" - Virtual LUNs of type SSDs that is used in the ONTAP Select shared HA
disk-rpm	**[0..2^32-1]**	integer optional	Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, or if the rpm does not apply to this 'disk-type'. Attributes: non-creatable, non-modifiable
disk-type		string	Disk interface type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI, • "msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk,

		optional	• "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk
effective-disk-rpm	**[0..2^32-1]**	integer optional	Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-disk-rpm'. Disks with the same 'effective-disk-rpm' are compatible for use within the same aggregate. Omitted if information is unavailable, or excluded by 'desired-attributes'. Attributes: non-creatable, non-modifiable
effective-disk-type		string optional	Effective disk interface type. Disk can report different physical 'disk-type', but the same 'effective-disk-type'. Disk with the same 'effective-disk-type' are compatible for use within the same aggregate. Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI, • "msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk
is-disk-left-behind		boolean optional	True if disk is was left behind during giveback/switchback. Attributes: non-creatable, non-modifiable
is-disk-shared		boolean optional	True if disk is a shared disk. Attributes: non-creatable, non-modifiable
is-disk-zeroed		boolean optional	True if disk is pre-zeroed. Attributes: non-creatable, non-modifiable
is-disk-zeroing		boolean optional	True if disk is in process of being zeroed. Attributes: non-creatable, non-modifiable
is-sparecore		boolean optional	True if disk is a sparecore disk. Attributes: non-creatable, non-modifiable
local-usable-data-size	**[0..2^63-1]**	integer optional	Usable spare capacity in bytes present in the data partition of this disk. This field is omitted • If this disk is not a partitioned disk. • If none of the data partitions are assigned to the current node. • If none of the data partitions are spare. If the disk is a root-data1-data2 partitioned disk, both data partitions are assigned to the current node and are spare then this field is sum of usable capacity from both the data partitions. Attributes: non-creatable, non-modifiable

local-usable-data-size-blks	**[0..2^64-1]**	integer optional	Usable spare capacity in number of 4K blocks present in the data partition of this disk. This field is omitted • If this disk is not a partitioned disk. • If none of the data partitions are assigned to the current node. • If none of the data partitions are spare. If the disk is a root-data1-data2 partitioned disk, both data partitions are assigned to the current node and are spare then this field is sum of usable capacity from both the data partitions. Attributes: non-creatable, non-modifiable
local-usable-data1-size	**[0..2^63-1]**	integer optional	Usable spare capacity in bytes present in the first data partition of this disk. This field is omitted • If this disk is not a root-data1-data2 partitioned disk. • If first data partition is not assigned to the current node. • If first data partition is not spare. Attributes: non-creatable, non-modifiable
local-usable-data1-size-blks	**[0..2^64-1]**	integer optional	Usable spare capacity in number of 4K blocks present in the first data partition of this disk. This field is omitted • If this disk is not a root-data1-data2 partitioned disk. • If first data partition is not assigned to the current node. • If first data partition is not spare. Attributes: non-creatable, non-modifiable
local-usable-data2-size	**[0..2^63-1]**	integer optional	Usable spare capacity in bytes present in the second data partition of this disk. This field is omitted • If this disk is not a root-data1-data2 partitioned disk. • If second data partition is not assigned to the current node. • If second data partition is not spare. Attributes: non-creatable, non-modifiable
local-usable-data2-size-blks	**[0..2^64-1]**	integer optional	Usable spare capacity in number of 4K blocks present in the second data partition of this disk. This field is omitted • If this disk is not a root-data1-data2 partitioned disk. • If second data partition is not assigned to the current node. • If second data partition is not spare. Attributes: non-creatable, non-modifiable
local-usable-root-size	**[0..2^63-1]**	integer optional	Usable spare capacity in bytes present in the root partition of this disk. This field is omitted • If this disk is not a partitioned disk. • If root partition is not assigned to the current node • If root partition is not spare Attributes: non-creatable, non-modifiable
local-usable-root-size-blks	**[0..2^64-1]**	integer optional	Usable spare capacity in number of 4K blocks present in the root partition of this disk. This field is omitted • If this disk is not a partitioned disk. • If root partition is not assigned to the current node • If root partition is not spare Attributes: non-creatable, non-modifiable
original-owner		string optional	Node for which the spare information is returned. Attributes: key, non-creatable, non-modifiable
			Industry standard disk type. Attributes: non-creatable, non-modifiable Possible values:

standard-disk-type		standarddisktype optional	• "sata" - SATA, Serial Advanced Technology Attachment, • "fc" - FC, Fibre Channel, • "nl_sas" - NL-SAS, Near Line SAS, • "lun" - LUN, SCSI Logical Unit Number (e.g. Array), • "sas" - SAS, Serial Attached SCSI, • "scsi" - SCSI, Small Computer System Interface, • "ssd" - SSD, Solid-State Disk, • "vm_disk" - VM Disk, Hypervisor Virtual Disk, • "unknown" - Unknown Disk Type, • "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - CAP SSD, High Capacity Solid-State Disk, • "vm_lun" - VM LUN, Hypervisor Virtual LUN, • "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN, • "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk
syncmirror-pool		string optional	SyncMirror Pool to which disk is assigned Attributes: non-creatable, non-modifiable
total-size	**[0..2^63-1]**	integer optional	Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable
usable-size	**[0..2^63-1]**	integer optional	Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable
usable-size-blks	**[0..2^64-1]**	integer optional	Total usable capacity of this disk in number of 4K blocks Attributes: non-creatable, non-modifiable
zeroing-percent	**[0..100]**	integer optional	If 'is-disk-zeroing' is true, this field indicates the percentage of zeroing that has completed. Attributes: non-creatable, non-modifiable

Element definition: **aggr-status-info**

[top]

Aggregate Status & Topology Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-cksumstyle		string optional	Checksum Style of Aggregate. Attributes: non-creatable, non-modifiable
aggr-plex-list		aggr-plex-info[] optional	Information about the Plex
aggr-raid-status		string optional	RAID Status of Aggregate. Attributes: non-creatable, non-modifiable
aggr-raid-type		string optional	RAID Type of Aggregate. Attributes: non-creatable, non-modifiable
aggr-wafl-status		string optional	WAFL Status of Aggregate. Attributes: non-creatable, non-modifiable

aggregate		string optional	Name of the aggregate. Attributes: key, non-creatable, non-modifiable
aggregate-uuid		string optional	Aggregate's Universal Unique IDentifier. Attributes: non-creatable, non-modifiable
is-mirror-verifying		boolean optional	True if mirror verification is in progress Attributes: non-creatable, non-modifiable
mirror-verification-pct-with-precision		string optional	This field indicates the percentage of mirror verification that has completed, rounded down to two decimal places. Attributes: non-creatable, non-modifiable
mirror-verification-percent	**[0..100]**	integer optional	This field indicates the percentage of mirror verification that has completed. Attributes: non-creatable, non-modifiable
node		string optional	Node hosting the aggregate. Attributes: non-creatable, non-modifiable

Element definition: **aggregate-simulate-layout-info**

[top]

Aggregate Layout

Name	Range	Type	Description
aggregate-capacity		size[] optional	Estimated Aggregate Usable Capacity Attributes: non-creatable, non-modifiable
checksum-types		checksum-style[] optional	Checksum Type of the RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable
disk-physical-sizes		size[] optional	Physical Raw Size of Selected Disks Attributes: non-creatable, non-modifiable
disk-positions		disk-position-type[] optional	Position of Selected Disks within the RAID Groups Attributes: non-creatable, non-modifiable
disk-sizes		size[] optional	FileSystem Size of Selected Disks Attributes: non-creatable, non-modifiable
disk-types		disktype[] optional	Disk Type of Selected Disks Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "msata" - Multiple bridged SATA disks in a single carrier, • "sas" - Serial Attached SCSI, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk
disks		disk-name[] optional	List of Selected Disks for Aggregate Create Simulation Attributes: non-creatable, non-modifiable

eff-disk-types		disktype[] optional	Effective Disk Type of Selected Disks Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "msata" - Multiple bridged SATA disks in a single carrier, • "sas" - Serial Attached SCSI, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk
raid-types		raid-type[] optional	RAID Type of the RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable
raidgroups		string[] optional	RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable

Element definition: **autobalance-aggregate-state**

[top]

Auto Balance Aggregate state Possible values:

- "disabled" - Auto Balance Aggregate is disabled,
- "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.,
- "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,
- "ineligible" - Ineligible

[none]

Element definition: **default-raidtype-config-info**

[top]

Default RAID type for each disk size and disk type supported on this filer.

Name	Range	Type	Description
default-raid-type		string optional	Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp and raid_tec.
disk-type		string optional	Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, SSD_NVM, BSAS, FSAS, MSATA and VMDISK.
maximum-disk-capacity		size optional	Maximum capacity (in TiB) of the disk for which the raid types are specified. This appears only for SATA family disks of size less than or equal to 4TiB. If this field is not present in output then there is no restriction on maximum disk capacity for given disk type. This will appear for SATA family disks and when the default RAID type is raid_dp.
minimum-disk-		size	Minimum capacity (in TiB) of the disk for which the raid types are specified. This appears only for SATA family disks of size greater than 4TiB. If this field is not present in output then there is no restriction on minimum disk capacity for given

capacity		optional	disk type. This will appear for SATA family disks and when the default RAID type is raid_tec.

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **filter-attrs-info**

[top]

List of filters based on attributes of an aggregate.

Name	Range	Type	Description
all		boolean optional	If true, returns all aggregates owned by the local node and also taken over by the local node. Default is false.
is-cfo		boolean optional	If true, returns aggregates with 'cfo' HA policy which includes local and taken over aggregates. Default is false.
is-dr-auxiliary		boolean optional	If true, returns aggregates taken over by the local node but owned by the partner of DR (disaster recovery) partner (i.e. auxiliary partner). Default is false.
is-dr-partner		boolean optional	If true, returns aggregates taken over by the local node but owned by the DR (disaster recovery) partner. Default is false.
is-local		boolean optional	If true, returns aggregates owned by the local node. It includes taken over aggregates with 'sfo' policy. Default is false.
is-partner		boolean optional	If true, returns aggregates taken over by the local node but owned by the partner. Default is false.
is-sfo		boolean optional	If true, returns aggregates with 'sfo' HA policy which includes local and taken over aggregates. Default is false.

Element definition: **ha-policy-type**

[top]

HA Policy of aggregate. It can be controller failover or storage failover or unspecified. Allowed values are:

- "cfo": Controller FailOver
- "sfo": Storage FailOver
- "none": Unspecified

[none]

[top]

Element definition: **mediascrub-detail-info**

Information about media scrubbing.

Name	Range	Type	Description
mediascrub-status		string	Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active.
percentage-complete		integer optional	Media scrubbing percentage complete. Range: [0..100].
raid-group		string	Name of the RAID group.

Element definition: **min-aggr-disk-count-info**

[top]

Minimum number of disks required in an aggregate of a specific RAID type.

Name	Range	Type	Description
minimum-disk-count		integer	Minimum disk count for the aggregate. Range : [1..7] Possible values: • 1 for raid-type raid0 • 3 for raid-type raid4 • 5 for raid-type raid_dp • 7 for raid-type raid_tec
raid-type		string	Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **modify-raid-type-simulate-info**

[top]

Simulation Result

Name	Range	Type	Description
warning-codes		warning-code[] optional	Warning Codes from Simulation of Raid Type Modification Attributes: non-creatable, modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **object-store-information**

[top]

Object Store info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of the aggregate. Attributes: key, non-creatable, non-modifiable
aggregate-uuid		string optional	UUID of the aggregate. Attributes: non-creatable, non-modifiable
bin-uuid		string optional	UUID of the capacity tier bin associated with the aggregate. Attributes: non-creatable, modifiable
force-tiering-on-metrocluster		boolean optional	Force tiering on the primary object store, for FabricPool in a MetroCluster configuration. Attributes: non-creatable, modifiable
is-mirror-degraded		boolean optional	This field identifies if the mirror object store is in sync with the primary object store of a FabricPool. Attributes: non-creatable, non-modifiable
license-used-percent	**[0..2^32-1]**	integer optional	Percentage of the object store's total licensed capacity used by this aggregate. This field is not returned for ONTAP Cloud. Attributes: non-creatable, non-modifiable
migrate-threshold	**[0..100]**	integer optional	Minimum Aggregate Space Threshold Attributes: non-creatable, modifiable
mirror-type		string optional	Object store mirror type. Attributes: non-creatable, modifiable Possible values: • "primary" - object store is a primary object store, • "mirror" - object store is a mirror object store
object-store-availability		string optional	Availability of the object store. Attributes: non-creatable, non-modifiable Possible values: • "unavailable" - Unavailable, • "available" - Available
object-store-name		string optional	Name of the object store configuration attached to the aggregate. Attributes: key, non-creatable, non-modifiable
object-store-uuid		string optional	UUID of the object store configuration attached to the aggregate. Attributes: non-creatable, non-modifiable
provider-type		string optional	Type of object store provider. Allowed values are: • 'AWS_S3' - AWS S3 • 'SGWS' - StorageGRID Webscale • 'Azure_Cloud' - Microsoft Azure Cloud • 'ONTAP_S3' - ONTAP S3 Attributes: non-creatable, modifiable
size-limit	**[0..2^63-1]**	integer optional	The maximum amount of space in the object store the aggregate can use. Attributes: non-creatable, modifiable
tiering-fullness-threshold	**[0..100]**	integer optional	Percentage of space in the performance tier which must be used before data is tiered out to the capacity tier. Attributes: non-creatable, modifiable
used-space	**[0..2^63-1]**	integer optional	Capacity used in the object store by this aggregate. Attributes: non-creatable, modifiable

Element definition: **object-store-url-style**

[top]

path-style | virtual-hosted-style Possible values:

- "path_style" ,
- "virtual_hosted_style"

[none]

Element definition: **object-store-vol-btuuids-info**

[top]

Object Store Volume Buftree UUIDs Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of the aggregate. Attributes: key, non-creatable, non-modifiable
bin-uuid		string optional	UUID of the capacity tier bin associated with the aggregate. Attributes: non-creatable, non-modifiable
buftree-uuid		string optional	Buftree UUID of the volume. Attributes: key, non-creatable, non-modifiable
cookie	**[0..2^32-1]**	integer optional	Token uniquifier for the entry. Attributes: key, non-creatable, non-modifiable
object-store-name		string optional	Name of the object store configuration attached to the aggregate. Attributes: key, non-creatable, non-modifiable
vol-uuid		string optional	UUID of the volume. Attributes: non-creatable, non-modifiable

Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

Name	Range	Type	Description
default-size		integer	Default size of a RAID group of this type in aggregates. Range : [6..16].
disktype		string optional	Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK.
maximum-disk-capacity		size optional	Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination.

maximum-size		integer	Maximum size of a RAID group of this type in aggregates. Range : [6..28].
minimum-disk-capacity		size optional	Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination.
minimum-size		integer	Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7.
raidtype		string	Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

Name	Range	Type	Description
raidtype		string	Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **scrub-detail-info**

[top]

Scrubbing information.

Name	Range	Type	Description
is-suspended		boolean	Suspended state of the scrub on that RAID group.
last-scrub-timestamp		integer optional	Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1].
percentage-complete		integer optional	Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100].
raid-group		string	Name of the RAID group involved in the scrub.

Element definition: **space-information**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of the aggregate for which the space usage is requested. Attributes: non-creatable, non-modifiable

aggregate-metadata	**[0..2^63-1]**	integer optional	This field represents space used by filesystem metadata of the aggregate. Attributes: non-creatable, non-modifiable
aggregate-metadata-percent	**[0..2^32-1]**	integer optional	Aggregate Metadata Percent Attributes: non-creatable, non-modifiable
aggregate-size	**[0..2^63-1]**	integer optional	This field represents the size of the aggregate in bytes. Attributes: non-creatable, non-modifiable
object-store-logical-used	**[0..2^63-1]**	integer optional	This field represents the total logical amount of space used in the object store (in bytes). Attributes: non-creatable, non-modifiable
object-store-logical-used-percent	**[0..2^32-1]**	integer optional	Logical Used Percentage. Attributes: non-creatable, non-modifiable
object-store-metadata	**[0..2^63-1]**	integer optional	(DEPRECATED) - This field represents the space used by metadata in the object store (in bytes). Attributes: non-creatable, non-modifiable
object-store-metadata-percent	**[0..2^32-1]**	integer optional	(DEPRECATED) - Metadata Percent. Attributes: non-creatable, non-modifiable
object-store-physical-used	**[0..2^63-1]**	integer optional	This field represents the total amount of space used in the object store. Attributes: non-creatable, non-modifiable
object-store-physical-used-percent	**[0..2^32-1]**	integer optional	Used Percentage. Attributes: non-creatable, non-modifiable
object-store-referenced-capacity	**[0..2^63-1]**	integer optional	This field represents the logical space still referenced in the object store (in bytes). Attributes: non-creatable, non-modifiable
object-store-referenced-capacity-percent	**[0..2^32-1]**	integer optional	Referenced Capacity Percentage. Attributes: non-creatable, non-modifiable
object-store-sis-space-saved	**[0..2^63-1]**	integer optional	This field represents the space saved by storage efficiency in the object store. Attributes: non-creatable, non-modifiable
object-store-sis-space-saved-percent	**[0..2^32-1]**	integer optional	Storage efficiency saved percentage. Attributes: non-creatable, non-modifiable
object-store-size	**[0..2^63-1]**	integer optional	This field represents the size of the object store. Attributes: non-creatable, non-modifiable
object-store-unreclaimed-space	**[0..2^63-1]**	integer optional	(DEPRECATED) - This field represents the amount of space that is no longer referenced in the object store. This space has yet to be reclaimed. Attributes: non-creatable, non-modifiable
object-store-unreclaimed-space-percent	**[0..2^32-1]**	integer optional	(DEPRECATED)- Unreclaimed Space Percentage. Attributes: non-creatable, non-modifiable
percent-snapshot-space	**[0..100]**	integer optional	Space Reserved for Snapshot Copies Attributes: non-creatable, non-modifiable
physical-used	**[0..2^63-1]**	integer optional	This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable
physical-used-percent	**[0..2^32-1]**	integer optional	Physical Used Percentage Attributes: non-creatable, non-modifiable
snap-size-total	**[0..2^63-1]**	integer optional	This field represents snapshot size in bytes. Attributes: non-creatable, non-modifiable
snapshot-reserve-unusable	**[0..2^63-1]**	integer optional	This field represents snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable
snapshot-			

reserve-unusable-percent	**[0..2^32-1]**	integer optional	Snapshot Reserve Unusable Percent Attributes: non-creatable, non-modifiable
tier-name		string optional	This field represents the name of the performance or capacity tier. Attributes: non-creatable, non-modifiable
total-provisioned-space	**[0..2^63-1]**	integer optional	This field represents total provisioned space across all the volumes in the aggr. Attributes: non-creatable, non-modifiable
total-provisioned-space-percent	**[0..2^32-1]**	integer optional	This field represents percentage of total provisioned space across all the volumes against aggr's size. Attributes: non-creatable, non-modifiable
used-including-snapshot-reserve	**[0..2^63-1]**	integer optional	This field represents space used by the aggregate including the aggregate's Snapshot reserve in bytes. Attributes: non-creatable, non-modifiable
used-including-snapshot-reserve-percent	**[0..2^32-1]**	integer optional	Total Used Percent Attributes: non-creatable, non-modifiable
volume-footprints	**[0..2^63-1]**	integer optional	This field represents space used by the sum of all data and metadata of all volumes in the aggregate. Attributes: non-creatable, non-modifiable
volume-footprints-percent	**[0..2^32-1]**	integer optional	Volume Footprints Percent Attributes: non-creatable, non-modifiable

Element definition: **striping-type**

[top]

Striping information of aggregate. Allowed values are:

- "striped": Member of stripe.
- "not_striped": Not member of stripe.
- "unknown": Not known.

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **verify-detail-info**

[top]

Information about mirror verification.

Name	Range	Type	Description
is-suspended		boolean	Is mirror verification suspended for this aggregate?

name		string	Name of the aggregate.
pct-with-precision		string optional	Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12")
percentage-complete		integer optional	Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100].

Element definition: **warning-code**

[top]

Warning codes for pre-check mode.

Name	Range	Type	Description
code	**[0..2^64-1]**	integer	Warning code.

Element definition: **aggr-64bit-upgrade-attributes**

[top]

Information related to 64-bit upgrade.

Name	Range	Type	Description
aggr-check-attributes		aggr-check-attributes optional	Information returned when upgrade-64bit-mode input in aggr-add API is "check".
aggr-start-attributes		aggr-start-attributes optional	Information returned when upgrade-64bit-mode in aggr-add API is "grow_all", "grow_none", or "grow_reserved".
aggr-status-attributes		aggr-status-attributes	Status information related to 64-bit upgrade. This information includes whether the 64-bit upgrade is in progress.

Element definition: **aggr-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

Name	Range	Type	Description
check		aggr-64bit-upgrade-check-info optional	Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "check".
start		aggr-64bit-upgrade-start-info optional	Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "grow_all", "grow_none", or "grow_reserved".
status		aggr-64bit-upgrade-status-info	Status information related to 64-bit upgrade. This information includes the block format of the aggregate and the progress of the 64-bit upgrade scanner.

Element definition: **aggr-efficiency-additional-details-info**

[top]

Additional details related to storage efficiency in this aggregate.

Name	Range	Type	Description
number-of-offline-volumes	**[0..2^32-1]**	integer optional	Number of volumes that are offline in the aggregate. Attributes: non-creatable, non-modifiable
number-of-sis-change-log-disabled-volumes	**[0..2^32-1]**	integer optional	Number of volumes on which efficiency change log is disabled in the aggregate. Attributes: non-creatable, non-modifiable
number-of-sis-disabled-volumes	**[0..2^32-1]**	integer optional	Number of volumes on which volume efficiency is disabled in the aggregate. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-aggr-info**

[top]

Storage efficiency achieved at the aggregate level using techniques like data compaction.

Name	Range	Type	Description
aggr-compaction-saved	**[0..2^63-1]**	integer optional	The total disk space that is saved by data compaction and cross volume sharing at the aggregate level. Attributes: non-creatable, non-modifiable
aggr-data-reduction-storage-efficiency-ratio		string optional	Storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable
aggr-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by the aggregate. Attributes: non-creatable, non-modifiable
aggr-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by the aggregate. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-cumulated-additional-details-info**

[top]

Additional details related to storage efficiency in the given aggregates.

Name	Range	Type	Description
number-of-offline-volumes	**[0..2^32-1]**	integer optional	Number of volumes that are offline in the given aggregates. Attributes: non-creatable, non-modifiable
number-of-sis-change-log-disabled-volumes	**[0..2^32-1]**	integer optional	Number of volumes on which efficiency change log is disabled in the given aggregates. Attributes: non-creatable, non-modifiable
number-of-sis-disabled-volumes	**[0..2^32-1]**	integer optional	Number of volumes on which volume efficiency is disabled in the given aggregates. Attributes: non-creatable, non-modifiable
number-of-skipped-aggregates	**[0..2^32-1]**	integer optional	Number of Skipped aggregates. Attributes: non-creatable, non-modifiable
skipped-aggregates		string[] optional	List of Aggregates skipped Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-cumulated-aggr-info**

[top]

Storage efficiency achieved at the aggregate level using techniques like data compaction.

Name	Range	Type	Description
aggr-data-reduction-storage-efficiency-ratio		string optional	Storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable
aggr-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by the given Aggregates. Attributes: non-creatable, non-modifiable
aggr-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by the given Aggregates. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-cumulated-snapshot-and-flexclone-info** [top]

Aggregated information of storage efficiency of Snapshot copies and FlexClone volumes in the given aggregates.

Name	Range	Type	Description
flexclone-volume-data-reduction-storage-efficiency-ratio		string optional	Flexclone volume data reduction efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable
flexclone-volume-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by all FlexClone volumes residing in the given aggregates. Attributes: non-creatable, non-modifiable
flexclone-volume-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by all FlexClone volumes in the given aggregates. Attributes: non-creatable, non-modifiable
snapshot-flexclone-volume-data-reduction-storage-efficiency-ratio		string optional	Snapshot and FlexClone volume storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable
snapshot-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by all volume Snapshot copies residing in the given aggregates. Attributes: non-creatable, non-modifiable
snapshot-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by all volume Snapshot copies residing in the given aggregates. Attributes: non-creatable, non-modifiable
snapshot-volume-data-reduction-storage-efficiency-ratio		string optional	Snapshot volume data reduction efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-cumulated-volume-info** [top]

Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.

Name	Range	Type	Description
volume-compression-saved	**[0..2^63-1]**	integer optional	The total disk space that is saved by compressing blocks by all volumes in the given aggregates. Attributes: non-creatable, non-modifiable
volume-data-reduction-storage-efficiency-ratio		string optional	Storage efficiency ratio of all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable
volume-dedupe-zero-pattern-saved	**[0..2^63-1]**	integer optional	The total disk space that is saved by volume Deduplication and pattern detection by all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable

volume-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable
volume-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by all volumes in the given aggregates. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-cumulative-info**

[top]

Cumulative storage efficiency information of an aggregate.

Name	Range	Type	Description
total-data-reduction-efficiency-ratio-wo-snapshots		string optional	total data reduction efficiency ratio excluding snapshots copies. Attributes: non-creatable, non-modifiable
total-data-reduction-efficiency-ratio-wo-snapshots-flexclones		string optional	total data reduction efficiency ratio excluding snapshots copies and flexclones. Attributes: non-creatable, non-modifiable
total-data-reduction-logical-used-wo-snapshots	**[0..2^63-1]**	integer optional	Total Data reduction logical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable
total-data-reduction-logical-used-wo-snapshots-flexclones	**[0..2^63-1]**	integer optional	Total Data reduction logical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable
total-data-reduction-physical-used-wo-snapshots	**[0..2^63-1]**	integer optional	Total Data reduction physical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable
total-data-reduction-physical-used-wo-snapshots-flexclones	**[0..2^63-1]**	integer optional	Total Data reduction physical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable
total-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used in the aggregate. This includes Volumes, Clones and Snapshots in the aggregate. The logical size is computed based on physical usage and savings obatained in the aggregate. Attributes: non-creatable, non-modifiable
total-physical-used	**[0..2^63-1]**	integer optional	This contains the physical size used by the aggregate. Attributes: non-creatable, non-modifiable
total-storage-efficiency-ratio		string optional	Total storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-snapshot-and-flexclone-volume-info**

[top]

Aggregated information of storage efficiency of Snapshots and FlexClone volumes in the aggregate.

Name	Range	Type	Description
flexclone-volume-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by all FlexClone volumes residing in the aggregate. Attributes: non-creatable, non-modifiable

flexclone-volume-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by all FlexClone volumes in the aggregate. Attributes: non-creatable, non-modifiable
snapshot-flexclone-volume-data-reduction-storage-efficiency-ratio		string optional	Snapshot and FlexClone volume storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable
snapshot-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by all Volume Snapshots residing in the aggregate. Attributes: non-creatable, non-modifiable
snapshot-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by all Volume Snapshots residing in the aggregate. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-total-cumulated-info**

[top]

cumulated storage efficiency information from the given aggregates.

Name	Range	Type	Description
total-data-reduction-efficiency-ratio-wo-snapshots		string optional	total data reduction efficiency ratio excluding snapshots copies. Attributes: non-creatable, non-modifiable
total-data-reduction-efficiency-ratio-wo-snapshots-flexclones		string optional	total data reduction efficiency ratio excluding snapshots copies and flexclones. Attributes: non-creatable, non-modifiable
total-data-reduction-logical-used-wo-snapshots	**[0..2^63-1]**	integer optional	Total Data reduction logical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable
total-data-reduction-logical-used-wo-snapshots-flexclones	**[0..2^63-1]**	integer optional	Total Data reduction logical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable
total-data-reduction-physical-used-wo-snapshots	**[0..2^63-1]**	integer optional	Total Data reduction physical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable
total-data-reduction-physical-used-wo-snapshots-flexclones	**[0..2^63-1]**	integer optional	Total Data reduction physical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable
total-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used in the given aggregates. This includes volumes, clones and Snapshot copies in the given aggregates. The logical size is computed based on physical usage and savings obatained in the given aggregates. Attributes: non-creatable, non-modifiable
total-physical-used	**[0..2^63-1]**	integer optional	This contains the physical size used by the given aggregates. Attributes: non-creatable, non-modifiable
total-storage-efficiency-ratio		string optional	Total storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable

Element definition: **aggr-efficiency-volume-info**

[top]

Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.

Name	Range	Type	Description
volume-compression-saved	**[0..2^63-1]**	integer optional	The total disk space that is saved by compressing blocks by all volumes in the aggregate. Attributes: non-creatable, non-modifiable
volume-data-reduction-storage-efficiency-ratio		string optional	Storage efficiency ratio of all the volumes in the aggregate. Attributes: non-creatable, non-modifiable
volume-efficiency-saved	**[0..2^63-1]**	integer optional	The total disk space that is saved by deduplication and FlexClone for files or LUNs by all volumes in the aggregate. Attributes: non-creatable, non-modifiable
volume-logical-used	**[0..2^63-1]**	integer optional	This contains logical size used by all the volumes in the aggregate. Attributes: non-creatable, non-modifiable
volume-physical-used	**[0..2^63-1]**	integer optional	This contains physical size used by all volumes in the aggregate. Attributes: non-creatable, non-modifiable
volume-vbn-zero-saved	**[0..2^63-1]**	integer optional	The total disk space that is saved by inline zero pattern detection by all the volumes in the aggregate. Attributes: non-creatable, non-modifiable

Element definition: **aggr-fs-attributes**

[top]

File system specific information about the aggregate.

Name	Range	Type	Description
block-type		string optional	The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit
fsid	**[0..2^32-1]**	integer optional	Aggregate's File System Identifier.
type		string optional	The type of aggregate. Possible values: aggr "aggr" (for aggregates that can contain flexible volumes)

Element definition: **aggr-inode-attributes**

[top]

A structure returning inode-related information for a given aggregate's Active File System (AFS).

Name	Range	Type	Description
files-private-used	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of system (not user-visible) files (inodes) used. If the referenced file system is restricted or offline, a value of 0 is returned.
files-total	**[0..2^64-1]**	integer optional	[settable, online-only] Total user-visible file (inode) count, i.e., maximum number of user-visible files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned.
	[0..2^64-	integer	[not settable, online-only] Number of user-visible files (inodes) used in the

files-used	**1]**	optional	referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned.
inodefile-private-capacity	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created.
inodefile-public-capacity	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created.
inofile-version	**[0..2^32-1]**	integer optional	[not settable, online-only] The inofile-version of the aggregate. If the referenced aggregate is restricted or offline, then a value of 0 is returned.
maxfiles-available	**[0..2^64-1]**	integer optional	[not settable, always] The count of the maximum number of user-visible files currently allowable on the referenced file system.
maxfiles-possible	**[0..2^64-1]**	integer optional	[not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system.
maxfiles-used	**[0..2^64-1]**	integer optional	[not settable, online-only] The number of user-visible files currently in use on the referenced file system.
percent-inode-used-capacity	**[0..100]**	integer optional	[not settable, online-only] The percentage of disk space currently in use based on user-visible file (inode) count on the referenced file system.

Element definition: **aggr-ownership-attributes**

[top]

Ownership information about the aggregate.

Name	Range	Type	Description
cluster		string optional	Name of the cluster which has the node that owns this aggregate.
dr-home-id	**[0..2^32-1]**	integer optional	NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info'
dr-home-name		string optional	Name of the DR node to which this aggregate's disks have been administratively assigned.
home-id	**[0..2^32-1]**	integer optional	NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info'
home-name		string optional	Name of the node to which this aggregate's disks have been administratively assigned.
owner-id	**[0..2^32-1]**	integer optional	NVRAM ID of node to which the aggregate ownership has been assigned. Normally, home-id matches owner-id. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-id. CFO takeover and giveback do not affect owner-id.
owner-name		string optional	Name of node to which the aggregate ownership has been assigned. Normally, home-name matches owner-name. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-name. CFO takeover and giveback do not affect owner-name.

Element definition: **aggr-performance-attributes**

[top]

Performance specific attributes of the aggregate

Name	Range	Type	Description
free-space-realloc		string optional	Returns the free space reallocation state of the aggregate. Possible values : "on", "off", "no_redirect" • "on" : Free space reallocation enabled with automatically starting the redirect scanner • "off" : Free space reallocation disabled • "no_redirect" : Free space reallocation enabled without running the redirect scanner The default value is "off"
max-write-alloc-blocks	**[0..1152]**	integer optional	The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks"
single-instance-data-logging		string optional	Indicates if Single Instance Data Logging is enabled on the aggregate. This feature is supported only on Cloud ONTAP. Possible values : "on", "off" • "on" : Single Instance Data Logging enabled • "off" : Single Instance Data Logging disabled The default value is "off"

Element definition: **aggr-plex-info**

[top]

Information about the Plex

Name	Range	Type	Description
aggr-raidgroup-list		aggr-raidgroup-info[] optional	Information about the RAID Groups
plex-is-online		boolean optional	True if plex is online. Attributes: non-creatable, non-modifiable
plex-is-resyncing		boolean optional	True if plex is resyncing. Attributes: non-creatable, non-modifiable
plex-name		string optional	Name of the plex. Attributes: key, non-creatable, non-modifiable
plex-pool	**[0..1]**	integer optional	SyncMirror Pool associated with the plex. Attributes: non-creatable, non-modifiable
plex-resync-level	**[0..1]**	integer optional	If plex-is-resyncing is true, this field indicates the resync level of the plex. Attributes: non-creatable, non-modifiable
plex-resync-pct-with-precision		string optional	This field indicates percentage of resync that has completed, rounded down to two decimal places. Attributes: non-creatable, non-modifiable
plex-resync-percent	**[0..100]**	integer optional	This field indicates the percentage of resync that has completed. Attributes: non-creatable, non-modifiable
plex-status		string optional	Status of the plex. Attributes: non-creatable, non-modifiable

Element definition: **aggr-raid-attributes**

[top]

RAID specific information of the aggregate

Name	Range	Type	Description
aggregate-type		string optional	Type of aggregate. The possible values: • "hdd" - aggregate consists of only HDDs, • "hybrid" - aggregate consists of both HDDs and SSDs, • "lun" - aggregate consists of only array LUNs, • "ssd" - aggregate consists of only SSDs, • "vmdisk" - aggregate consists of only VMDISKs.
cache-raid-group-size	**[1..28]**	integer optional	Current maximum cache RAID group size of hybrid aggregate. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for a hybrid aggregate i.e. whose "is-hybrid" field is set to true.
checksum-status		string optional	Checksum status. Possible values: "active", "initializing", "none", "off", "reinitialized", "reinitializing", "reverting", "unknown", "upgrading_phase1", "upgrading_phase2" This information will not be returned for a striped aggregate.
checksum-style		string optional	Checksum style. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown • "wafl" - wafl, • "zoned" - zoned (this value is no longer supported).
disk-count	**[0..2^32-1]**	integer optional	Number of disks in the aggregate.
encrypt-with-aggr-key		boolean optional	If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption).
ha-policy		string optional	Aggregate's HA policy. Possible return values: "cfo", "sfo", "none"
has-local-root		boolean optional	Whether the aggregate contains the local root volume. This information will not be returned for a striped aggregate. Default value is false.
has-partner-root		boolean optional	Whether the aggregate contains the partner's root volume. This information will not be returned for a striped aggregate. Default value is false.
is-checksum-enabled		boolean optional	Is checksumming enabled for the aggregate? Default value is false.
is-composite		boolean optional	If true, aggregate currently contains two tiers of storage.
is-fabricpool-mirrored		boolean optional	If true, the aggregate has two external capacity tiers, which are mirrors, each containing a copy of the data.
is-hybrid		boolean optional	If true, aggregate currently contains both SSD and non-SSD RAID groups.
is-hybrid-enabled		boolean optional	If true, aggregate is eligible to contain both SSD and non-SSD RAID groups.
is-inconsistent		boolean optional	Whether or not the aggregate is inconsistent. Default value is false.
is-mirrored		boolean optional	If true, the aggregate is mirrored. Default value is false.
is-nve-capable		boolean optional	If true, the aggregate is capable of supporting NVE.

is-root-aggregate		boolean optional	Whether this is a root aggregate. Default value is false. This differs from has-local-root and has-partner-root by evaluating true when the aggregate may contain a root volume for any node. The has-local-root and has-partner-root fields only evaluate true when the aggregate contains the active root for the specified node. The is-root-aggregate field will still evaluate true for an offline root aggregate. The has-local-root and has-partner-root fields will evaluate false, since the aggregate has no mounted filesystem.
mirror-status		string optional	Aggregate's mirror status. Possible values: "invalid", "uninitialized", "needs CP count check", "CP count check in progress", "unmirrored", "mirrored", "mirror degraded, "mirror resynchronizing", "failed", "limbo" and . This information will not be returned for a striped aggregate.
mount-state		string optional	[not settable, always] This field shows the volume's mount state. Possible values: "creating", "destroying", "frozen", "inconsistent", "iron_restricted", "mounting", "online", "quiescing", "quiesced", "reverted", "unmounted", "unmounting" This information will not be returned for a striped aggregate.
plex-count	**[0..2^32-1]**	integer optional	Number of plexes in the aggregate. This value tells us the size of the returned "plex" array.
plexes		plex-attributes[] optional	List of plexes in the aggregate
raid-lost-write-state		string optional	State of the RAID Lost Write feature for an aggregate. The possible values are: • "aborted" - The RAID Lost Write scrub is no longer running and was aborted on all RAID groups in this aggregate, possibly due to an error. • "illegal" - The aggregate contains RAID groups with RAID Lost Write disabled and other RAID groups with RAID Lost Write enabled. This is an invalid state. • "inoperative" - The RAID Lost Write scrub is allowed on the aggregate, but it cannot start because the system-wide RAID Lost Write option "raid.lost_write.enable" is set to "off". • "off" - RAID Lost Write protection and scrub are disabled on this aggregate. • "on" - The aggregate is RAID Lost Write protected and that the RAID Lost Write scrub completed successfully on all RAID groups in this aggregate. • "partial" - The RAID Lost Write scrub completed successfully on some of the RAID groups in this aggregate, but was aborted on at least one of the RAID groups. • "unknown" - The RAID Lost Write scrub status could not be determined. • "upgrade_partial" - The RAID Lost Write scrub is still in progress on some of the RAID groups in this aggregate and was aborted on at least one of the RAID groups. • "upgrading" - The RAID Lost Write scrub is still not completed or not yet started on at least one of the RAID groups in this aggregate.
raid-size	**[0..2^32-1]**	integer optional	Current RAID group size. This information will not be returned for a striped aggregate.
raid-status		string optional	RAID status. Possible values: "copying", "degraded", "foreign", "growing", "hybrid", "hybrid_enabled", "initializing", "invalid", "ironing", "mirror degraded", "mixed_raid_type", "mirrored", "needs check", "normal", "noparity", "out-of-date", "parity uninit'd", "partial", "raid0", "raid4", "raid_dp", "raid_tec", "reconstruct", "resyncing", "verifying". These values may appear by themselves or in combination separated by commas (e.g., "mixed_raid_type, hybrid, normal"). For details on raid-type, refer description of element 'raid-type' below
			Possible values:

raid-type		string optional	• "raid0" - All the raid groups in the aggregate are of type raid0, • "raid4" - All the raid groups in the aggregate are of type raid4, • "raid_dp" - All the raid groups in the aggregate are of type raid_dp, • "raid_tec" - All the raid groups in the aggregate are of type raid_tec, • "mixed_raid_type" - This aggregate contains RAID groups of different RAID types (raid0, raid4, raid_dp, raid_tec).
state		string optional	Aggregate State Possible values: • "creating" , • "destroying" , • "failed" , • "frozen" , • "inconsistent" , • "iron_restricted" , • "mounting" , • "online" , • "offline" , • "partial" , • "quiesced" , • "quiescing" , • "restricted" , • "reverted" , • "unknown" , • "unmounted" , • "unmounting" , • "relocating"
uses-shared-disks		boolean optional	If true, aggregate is using shared disks.

Element definition: **aggr-snaplock-attributes**

[top]

Snaplock specific information of the aggregate

Name	Range	Type	Description
is-snaplock		boolean optional	Whether or not it's a SnapLock aggregate.
snaplock-type		string optional	The type of the snaplock aggregate. Possible values - "compliance" or "enterprise" or "non-snaplock"

Element definition: **aggr-snapmirror-attributes**

[top]

SnapMirror specific information of the aggregate

Name	Range	Type	Description
dp-snapmirror-destinations	**[0..2^31-1]**	integer optional	When present, this field indicates the number of data protection (dp) snapmirror destination volumes.
ls-snapmirror-destinations	**[0..2^31-1]**	integer optional	When present, this field indicates the number of load sharing (ls) snapmirror destination volumes.

mv-snapmirror-destinations	**[0..2^31-1]**	integer optional	When present, this field indicates the number of move snapmirror destination volumes that are created for volume move operations.

Element definition: **aggr-snapshot-attributes**

[top]

A structure returning consolidated size-related information for all snapshots of the given aggregate.

Name	Range	Type	Description
files-total	**[0..2^64-1]**	integer optional	[settable, online-only] Total file (inode) count, i.e., current maximum number of files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned.
files-used	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned.
inofile-version	**[0..2^32-1]**	integer optional	[not settable, online-only] The inofile-version on the referenced file system. A value of 0 is returned if the referenced file system is restricted or offline.
is-snapshot-auto-create-enabled		boolean optional	This option determines if auto snapshot is enabled on the aggregate. Default value is true.
is-snapshot-auto-delete-enabled		boolean optional	This option determines if the snapshot auto delete is currently enabled for the aggregate. Default value is true.
maxfiles-available	**[0..2^64-1]**	integer optional	[not settable, always] The count of the maximum number of files allowable on the referenced file system.
maxfiles-possible	**[0..2^64-1]**	integer optional	[not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system.
maxfiles-used	**[0..2^64-1]**	integer optional	[not settable, online-only] The count of the number of files currently in use on the referenced file system.
percent-inode-used-capacity	**[0..100]**	integer optional	[not settable, online-only] The percentage of disk space currently in use based on file (inode) count on the referenced file system.
percent-used-capacity	**[0..100]**	integer optional	[not settable, online-only] The percentage of disk space currently in use on the referenced file system.
size-available	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned.
size-total	**[0..2^64-1]**	integer optional	[not settable, online-only] Total size (in bytes) of the referenced file system. If the referenced file system is restricted or offline, a value 0 is returned.
size-used	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned.
snapshot-reserve-percent	**[0..100]**	integer optional	The percentage of aggregate disk space that has been set aside as reserve for snapshot usage. Default value is 0.

Element definition: **aggr-space-attributes**

[top]

A structure returning space-related information for a given aggregate's Active File System (AFS).

Name	Range	Type	Description
aggregate-metadata		integer optional	This field is deprecated in Data ONTAP 8.3 and later. Use the aggregate-metadata field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1]
capacity-tier-used		integer optional	This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1]
data-compacted-count		integer optional	The total physical disk footprint of the compacted data blocks in the referenced file system. Range : [0..2^64-1]
data-compaction-space-saved		integer optional	The total disk space saved due to Data Compaction in the referenced file system. Range : [0..2^64-1]
data-compaction-space-saved-percent		integer optional	The percentage of the used space in the referenced file system that has been saved by Data Compaction. Range : [0..100]
hybrid-cache-size-total	**[0..2^64-1]**	integer optional	[not settable, online-only] Total cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned.
percent-used-capacity	**[0..100]**	integer optional	[not settable, online-only] The percentage of disk space currently in use on the referenced file system.
performance-tier-inactive-user-data		integer optional	The amount of inactive user data in bytes. Range : [0..2^64-1]
performance-tier-inactive-user-data-percent		integer optional	The percentage of the used space in the referenced file system that is inactive user data. Range : [0..100]
physical-used		integer optional	This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1]
physical-used-percent		integer optional	This field represents physical used space in percent. Range : [0..2^64-1]
sis-shared-count		integer optional	The total physical disk footprint of the shared data blocks in the referenced file system achived by data compation and cross-volume inline deduplication. Range : [0..2^64-1]
sis-space-saved		integer optional	The total disk space saved due to Data Compaction and cross-volume inline deduplication in the referenced file system. Range : [0..2^64-1]
sis-space-saved-percent		integer optional	The percentage of the used space in the referenced file system that has been saved by Data Compaction and cross-volume inline deduplication. Range : [0..100]
size-available	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned.
size-total	**[0..2^64-1]**	integer optional	[not settable, online-only] Total size (in bytes) of the referenced file system . If the referenced file system is restricted or offline, a value of 0 is returned.
size-used	**[0..2^64-1]**	integer optional	[not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned.
total-reserved-space	**[0..2^64-1]**	integer optional	[not settable, online-only] The total disk space in bytes that is reserved on the referenced file system. The reserved space is already counted in the used space, so this element can be used to see what portion of the used space represents space reserved for future use.
used-including-snapshot-reserve		integer optional	This field is deprecated in Data ONTAP 8.3 and later. Use the used-including-snapshot-reserve field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1]

volume-footprints		integer optional	This field is deprecated in Data ONTAP 8.3 and later. Use the volume-footprints field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1]

Element definition: **aggr-striping-attributes**

[top]

Striping specific information of a striped aggregate This information will not be returned for the not-striped aggregate.

Name	Range	Type	Description
member-count	**[0..2^32-1]**	integer optional	Number of members in a striped aggregate.

Element definition: **aggr-volume-count-attributes**

[top]

WAFL volume count specific information of the aggregate

Name	Range	Type	Description
flexvol-count	**[0..2^31-1]**	integer	Number of volumes in the aggregate.
flexvol-count-collective	**[0..2^31-1]**	integer optional	Number of striped volume constituents in the aggregate which also represent a collective striped volume. This field is for internal use only.
flexvol-count-not-online	**[0..2^31-1]**	integer optional	When present, this field indicates the number of volumes that are not online (offline and restricted volumes).
flexvol-count-quiesced	**[0..2^31-1]**	integer optional	When present, this field indicates the number of quiesced online volumes.
flexvol-count-striped	**[0..2^31-1]**	integer optional	Number of striped volume constituents in the aggregate. These volumes are also reported in the full volume-count value. This field is for internal use only.

Element definition: **aggr-wafliron-attributes**

[top]

WAFL-iron specific information of the aggregate

Name	Range	Type	Description
last-start-errno		integer optional	The error code of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted.
last-start-error-info		string optional	The error information of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted.
scan-percentage	**[0..100]**	integer optional	When present, this field indicates the percentage of blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning".
			When wafliron is run, it goes through different stages/states. This field indicates the current state of wafliron on the specified aggregate.

state		string optional	Possible values are: "aborting" - wafliron is aborting. "checking_lost_blocks" - wafliron is checking for lost blocks. "checking_lost_inodes" - wafliron is checking link counts. "finishing" - wafliron is cleaning up. "not_running" - wafliron is not running on this aggregate. "scanning" - wafliron is scanning inodes, and/or fixing file system inconsistencies. "starting" - wafliron is starting, allocating, and/or in the initial mounting phase. "unknown" - wafliron state could not be determined.
summary-scan-percentage	**[-1..100]**	integer optional	When present and the value is other than -1, this field indicates the percentage of summary blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning".

Element definition: **aggr-wafliron-info**

[top]

Information related to wafliron, the online WAFL file system check/repair tool.

Name	Range	Type	Description
last-start-errno		integer optional	The error code of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted.
last-start-error-info		string optional	The error information of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted.
scan-percentage		integer optional	When present, this field indicates the percentage of blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning". Range: [0..100]
state		string	When wafliron is run, it goes through different stages/states. This field indicates the current state of wafliron on the specified aggregate. Possible values are: "waiting_for_commit" - wafliron is finished on this volume but waiting for the changes to be committed or rejected. "not_running" - wafliron is not running on this aggregate. "starting" - wafliron is starting, allocating, and/or in the initial mounting phase. "scanning" - wafliron is scanning inodes, and/or fixing file system inconsistencies. "checking_lost_blocks" - wafliron is checking for lost blocks. "checking_lost_inodes" - wafliron is checking link counts. "finishing" - wafliron is cleaning up. "aborting" - wafliron is aborting.

			"unknown" - wafliron state could not be determined.
summary-scan-percentage		integer optional	When present and the value is other than -1, this field indicates the percentage of summary blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning". Range: [-1..100]

Element definition: **aggregate-space-info**

[top]

A set of two structures returning size-related information for a given aggregate and its set of snapshots.

Name	Range	Type	Description
aggregate-space		fs-space-info	[not settable, online-only] A structure returning size-related information for a given aggregate.
snapshot-space		snapshot-space-info	[not settable, online-only] A structure returning size-related information for a set of snapshots of the given aggregate.

Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

The following are the possible values for checksum type and their meanings.

- 'none' - The data written to the aggregate is not protected by checksum.
- 'block' - Every block of data block has checksum written in the same block.
- 'azcs' - Disk is divided into zones of N blocks and the checksum is written in the middle of zone.
- 'wafl' - The checksum information is maintained in the filesystem layer.
- 'mixed' - This means we have both 'block' and 'zone' checksum styles.
- 'unknown' - The checksum style is unknown.

[none]

Element definition: **contained-volume-info**

[top]

Information about a volume contained in the aggregate.

Name	Range	Type	Description
name		string	Volume name.
vserver		string optional	Name of the vserver to which this volume belongs. This field is returned only when the request is sent to the Admin Vserver LIF.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **disk-position-type**

[top]

Disk position type of the aggregate.

The following are the possible values for disk position type of the aggregate and their meanings.

- 'copy' - The disk serves as the destination for sick disk copy.
- 'data' - The disk serves as a data disk in the aggregate.
- 'dparity' - The disk serves as a double parity disk.
- 'tparity' - The disk serves as a triple parity disk.
- 'orphan' - The disk is in the process of being removed from the aggregate.
- 'parity' - The disk serves as a single parity disk.
- 'pending' - The disk is in the process of being added to a RAID group or is in the process of being reconstructed or sick disk copy.
- 'present' - The disk is part of a RAID group in an aggregate.
- 'shared' - The disk is being used as a shared disk.

[none]

Element definition: **disktype**

[top]

ATA | BSAS | FCAL | FSAS | LUN | MSATA | SAS | SSD | VMDISK | SSD-NVM | SSD-CAP | SSD-ZNS | VMLUN | VMLUN-SSD Possible values:

- "ata" - Advanced Technology Attachment,
- "bsas" - Bridged Serial Attached SCSI (bridged from SATA),
- "fcal" - Fibre Channel Arbitrated Loop,
- "fsas" - High-Capacity (Fat) Serial Attached SCSI,
- "lun" - SCSI Logical Unit Number (e.g. Array),
- "msata" - Multiple bridged SATA disks in a single carrier,
- "sas" - Serial Attached SCSI,
- "ssd" - Solid-State Disk,
- "vmdisk" - Hypervisor Virtual Disk,
- "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - High Capacity Solid-State Disk,
- "vmlun" - Hypervisor Virtual LUN,
- "vmlun_ssd" - Hypervisor Virtual SSD LUN,
- "ssd_zns" - Zoned Namespaces Solid-State Disk

[none]

Element definition: **mirror-count-info**

[top]

Various counts information for mirror volumes in the aggregate. This information is returned only when the aggregate contains mirror volumes. Currently, Vfiler owned mirror destination volumes are counted only if those volumes are online.

Name	Range	Type	Description
dp-qtree-snapmirror-destinations		integer optional	When present, this field indicates the number of data protection (dp) qtree snapmirror destination volumes. Range: [0..2^31-1]
dp-snapmirror-destinations		integer optional	When present, this field indicates the number of data protection (dp) snapmirror destination volumes. Range: [0..2^31-1]
ls-snapmirror-destinations		integer optional	When present, this field indicates the number of load sharing (ls) snapmirror destination volumes. Range: [0..2^31-1]
move-snapmirror-destinations		integer optional	When present, this field indicates the number of move snapmirror destination volumes that are created for volume move operations. Range: [0..2^31-1]

Element definition: **plex-info**

[top]

Information for a plex.

Name	Range	Type	Description
is-online		boolean	"true" if the plex is online, "false" otherwise.
is-resyncing		boolean	"true" if the plex is currently resyncing, "false" otherwise.
name		string	Plex name, e.g. /myvol/plex0
plex-resync-pct-with-precision		string optional	If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12")
plex-status		string optional	Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active")
pool	**[0..1]**	integer optional	The pool to which the majority of disks in the plex belong.
raid-groups		raid-group-info[] optional	List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true".
resync-level	**[0..1]**	integer optional	If the plex is currently being resynced, then the resync level.
resyncing-percentage		integer optional	If the plex is currently being resynced, then the completion percentage. Range : [0..100].

Element definition: **raid-type**

[top]

Raid type of the aggregate.

The following are the possible values for RAID type and their meanings.

- 'raid_tec' - The aggregate is composed of RAID groups that can handle triple disk failures (Triple Erasure Code).
- 'raid_dp' - The aggregate is composed of RAID groups that can handle double disk failures (double parity).
- 'raid4' - The aggregate is composed of RAID groups that can can handle a single non-SSD-ZNS disk failure (single parity).
- 'raid_ep' - The aggregate is composed of RAID groups that can can handle a single SSD-ZNS disk failure (single parity) and one or more block failures inside each SSD-ZNS disk.
- 'raid0' - The aggregate does not have parity protection.
- 'mixed_raid_type' - Cache tier in the aggregate has a different RAID type from the capacity tier.

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

Element definition: **volume-space-info**

[top]

List of flexible volumes in the aggregate and their space usage.

Name	Range	Type	Description
guarantee		string	Type of guarantee option set on this volume. Possible values: none, file, volume
volume-allocated		integer	Total space allocated for this volume in the aggregate. Range : [0..2^64-1]
volume-name		string	Name of the volume
volume-used		integer	Total space used by this volume. Range : [0..2^64-1]

Element definition: **aggr-64bit-upgrade-check-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "check".

Name	Range	Type	Description
added-space		integer optional	The effective total space to be added (in bytes), not including blocks used by the 64-bit upgrade of the aggregate and its contained flexible volumes. Range: [0..2^64-1].
cookie		integer optional	The opaque cookie to uniquely identify a 64-bit upgrade transaction previously triggered on the aggregate. Range: [0..2^64-1].
last-errno		integer optional	The error code of the last attempt to check for space usage on the specific aggregate. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Per-volume upgrade check results may be out of date if last-errno is not 0.
space-estimate-complete		boolean optional	True if the space estimate has completed. Check "last-errno" to find out whether the space estimate was successful.

Element definition: **aggr-64bit-upgrade-start-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "grow_all", "grow_none", or "grow_reserved".

Name	Range	Type	Description
last-errno		integer optional	The error code of the last attempt to start 64-bit upgrade on the specific aggregate. This field is present only if 64-bit upgrade was previously attempted. Possible values include: EAGGR_64BIT_UPGRADE_ENOSPC EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL EVOLUME_IRON_NON_LOCAL_STATUS
min-space-for-upgrade		integer optional	The minimum additional disk space (in bytes) required to trigger 64-bit upgrade. This field is present when the specified disks do not have sufficient space to upgrade the aggregate and its contained flexible volumes to 64-bit. Range: [0..2^64-1].

Element definition: **aggr-64bit-upgrade-status-info**

[top]

Status information related to 64-bit upgrade. This information includes the block format of the aggregate and the progress of the 64-bit upgrade scanner.

Name	Range	Type	Description
block-format		string	The block format of the aggregate. Can be "32_bit", "64_bit", or "upgrading".
fbn-progress		integer optional	The most recent fbn the 64-bit upgrade scanner is working on. Valid only when the aggregate block format is "upgrading". Range: [0..2^32-1].
inode-progress		integer optional	The most recent inode the 64-bit upgrade scanner is working on. Valid only when the aggregate block format is "upgrading". Value -1 indicates inofile is being scanned. Range: [-1..2^32-2].
percent-complete		integer optional	Estimated percentage of how much of the filesystem has completed the 64-bit upgrade. Valid only when the aggregate block format is "upgrading". Range: [0..100].
scanner-status		string optional	The status of the 64-bit upgrade scanner. Can be "running" or "stopped" if the aggregate block format is "upgrading". Otherwise, no value is returned.
space-progress		string optional	The inode space of the most recent inode the 64-bit upgrade scanner is working on. Can be "public" or "private". Valid only when the aggregate block format is "upgrading".
time-estimate		integer optional	Estimated time to completion of the 64-bit upgrade in seconds. Valid only when the aggregate block format is "upgrading" and scanner status is "running". Value -1 indicates that time estimate is not available. Range: [-1..(2^32-1)/10].
total-inodes		integer optional	The total number of inodes in the file system. Valid only when the aggregate block format is "upgrading". Range: [0..2^32-1].

Element definition: **aggr-check-attributes**

[top]

Information returned when upgrade-64bit-mode in aggr-add API is "check".

Name	Range	Type	Description
added-space		integer optional	The effective total space that would be added (in bytes) to the aggregate. This would not include the blocks used by the 64-bit upgrade of the aggregate and its contained flexible volumes. Range: [0..2^64-1].
check-last-errno		integer optional	The error code of the last attempt to check for space usage on the specific aggregate. This field is present only if a previous 64-bit upgrade check failed. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Per-volume upgrade check results may be out of date if last-errno is not 0.
cookie		integer optional	The opaque cookie to uniquely identify a 64-bit upgrade transaction previously triggered on the aggregate using aggr-add API. Range: [0..2^64-1].
is-space-estimate-complete		boolean optional	True if the space estimate has completed. Check "check-last-errno" to find out whether the space estimate was successful.

Element definition: **aggr-raidgroup-info**

[top]

Information about the RAID Groups

Name	Range	Type	Description
aggr-disk-list		aggr-disk-info[] optional	Information about the disks
aggr-raidgroup-entity-list		aggr-raidgroup-entity-info[] optional	Information about the individual RAID Groups
storage-pool		string optional	Name of the Storage Pool. Attributes: non-creatable, non-modifiable

Element definition: **aggr-start-attributes**

[top]

Information returned when upgrade-64bit-mode in aggr-add API is "grow_all", "grow_none", or "grow_reserved".

Name	Range	Type	Description
min-space-for-upgrade		integer optional	The minimum additional disk space (in bytes) required to trigger 64-bit upgrade. This field is present when the specified disks do not have sufficient space to upgrade the aggregate and its contained flexible volumes to 64-bit. Range: [0..2^64-1].
start-last-errno		integer optional	The error code of the last attempt to start 64-bit upgrade on the specific aggregate. This field is present only if a previous 64-bit upgrade failed. Possible values include: EAGGR_64BIT_UPGRADE_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL

Element definition: **aggr-status-attributes**

[top]

Status information related to 64-bit upgrade. This information includes whether the 64-bit upgrade is in progress.

Name	Range	Type	Description
is-64-bit-upgrade-in-progress		boolean optional	True if the 64-bit upgrade is in progress.

Element definition: **fs-space-info**

[top]

A structure returning size-related information for a given aggregate.

Name	Range	Type	Description
fs-aggregate-metadata		integer optional	This field is deprecated in Data ONTAP 8.3 and later. Use the aggregate-metadata field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1]
fs-capacity-tier-used		integer optional	This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1]
fs-files-private-used		integer	[not settable, online-only] Number of system (not user-visible) files (inodes) used. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]

fs-files-total		integer	[settable, online-only] Total user-visible file (inode) count, i.e., maximum number of user-visible files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
fs-files-used		integer	[not settable, online-only] Number of user-visible files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
fs-hybrid-cache-size-total		integer optional	[not settable, online-only] Total cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. Range: [0 - 2^64-1]
fs-hybrid-cache-size-used		integer optional	[not settable, online-only] Used cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. Range: [0 - 2^64-1]
fs-inodefile-private-capacity		integer	[not settable, online-only] Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0 - 2^64-1]
fs-inodefile-public-capacity		integer	[not settable, online-only] Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0 - 2^64-1]
fs-maxfiles-available		integer	[not settable, always] The count of the maximum number of user-visible files currently allowable on the referenced file system. Range: [0 - 2^64-1]
fs-maxfiles-possible		integer	[not settable, always] The largest value to which the fs-maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. Range: [0 - 2^64-1] Range: [0 - 2^64-1]
fs-maxfiles-used		integer	[not settable, online-only] The number of user-visible files currently in use on the referenced file system. Range: [0 - 2^64-1]
fs-percent-inode-used-capacity		integer	[not settable, online-only] The percentage of disk space currently in use based on user-visible file (inode) count on the referenced file system. Range: [0..100]
fs-percent-used-capacity		integer	[not settable, online-only] The percentage of disk space currently in use on the referenced file system. Range: [0..100]
fs-perf-tier-capacity-tier-used		integer optional	This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1]
fs-physical-used		integer optional	This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1]
fs-sis-percent-saved		integer	[not settable, online-only] The percentage of disk space saved by eliminating the duplicated blocks on the referenced file system. Range: [0..100]
fs-sis-saved-space		integer	[not settable, online-only] The total disk space in bytes that is saved by storing only one copy of the duplicated blocks on the referenced file system. Range: [0 - 2^64-1]
fs-sis-shared-space		integer	[not settable, online-only] The amount of data in bytes that is shared by more than one instance on the referenced file system. Range: [0 - 2^64-1]
fs-size-available		integer optional	[not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
			[not settable, online-only] Total size (in bytes) of the referenced file system . If

fs-size-total		integer optional	the referenced file system is restricted or offline, a value 0 is returned. Range: [0 - 2^64-1]
fs-size-used		integer optional	[not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
fs-total-reserved-space		integer optional	[not settable, online-only]The total disk space in bytes that is reserved on the referenced file system. The reserved space is already counted in the used space, so this element can be used to see what portion of the used space represents space reserved for future use. Range: [0 - 2^64-1]
fs-used-including-snapshot-reserve		integer optional	This field is deprecated in Data ONTAP 8.3 and later. Use the used-including-snapshot-reserve field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1]
fs-volume-footprints		integer optional	This field is deprecated in Data ONTAP 8.3 and later. Use the volume-footprints field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1]

Element definition: **plex-attributes**

[top]

Information about a plex.

Name	Range	Type	Description
is-online		boolean optional	"true" if the plex is online, "false" otherwise.
is-resyncing		boolean optional	"true" if the plex is currently resyncing, "false" otherwise.
plex-name		string optional	Name of the plex.
plex-resync-pct-with-precision		string optional	If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12")
plex-status		string optional	Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active")
pool	**[0..1]**	integer optional	The pool to which the majority of disks in the plex belong.
raidgroups		raidgroup-attributes[] optional	List of all RAID groups in the plex.
resync-level	**[0..1]**	integer optional	If the plex is currently being resynced, then the resync level.
resyncing-percentage	**[0..100]**	integer optional	If the plex is currently being resynced, then the completion percentage.

Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

Name	Range	Type	Description

checksum-style		string	Checksum style. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown, • "wafl" - wafl, • "zoned" - zoned (this value is no longer supported).
cluster-disk-names		disk-info[] optional	List of disks in this plex by their spatial names, if available.
disks		disk-info[]	List of disks in this plex.
is-cache-tier		boolean	"true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space).
is-recomputing-parity		boolean	"true" if the RAID group is currently recomputing parity.
is-reconstructing		boolean	"true" if the RAID group is currently reconstructing.
is-scrub-suspended		boolean optional	Suspended state of the scrub on that RAID group.
last-scrub-timestamp		integer optional	Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1].
name		string	RAID group name.
recomputing-parity-percentage		integer optional	The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100]
reconstruction-percentage		integer optional	If reconstruction is going on, the the completion percentage. Range : [0-100]
scrub-percentage-complete		integer optional	Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100].

Element definition: **snapshot-space-info**

[top]

A structure returning consolidated size-related information for all snapshots of the given volume.

Name	Range	Type	Description
snapshot-files-total		integer	[settable, online-only] Total file (inode) count, i.e., current maximum number of files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
snapshot-files-used		integer	[not settable, online-only] Number of files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
snapshot-maxfiles-available		integer	[not settable, always] The count of the maximum number of files allowable on the referenced file system. Range: [0 - 2^64-1]
snapshot-maxfiles-possible		integer	[not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. Range: [0 - 2^64-1]
snapshot-			

maxfiles-used		integer	[not settable, online-only] The count of the number of files currently in use on the referenced file system. Range: [0 - 2^64-1]
snapshot-percent-inode-used-capacity		integer	[not settable, online-only] The percentage of disk space currently in use based on file (inode) count on the referenced file system. Range: [0..100]
snapshot-percent-used-capacity		integer	[not settable, online-only] The percentage of disk space currently in use on the referenced file system. Range: [0..100]
snapshot-sis-percent-saved		integer	[not settable, online-only] The percentage of disk space saved by eliminating the duplicated blocks on the referenced file system. Range: [0..100]
snapshot-sis-saved-space		integer	[not settable, online-only] The total disk space in bytes that is saved by storing only one copy of the duplicated blocks on the referenced file system. Range: [0 - 2^64-1]
snapshot-sis-shared-space		integer	[not settable, online-only] The amount of data in bytes that is shared by more than one instance on the referenced file system. Range: [0 - 2^64-1]
snapshot-size-available		integer optional	[not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]
snapshot-size-total		integer optional	[not settable, online-only] Total size (in bytes) of the referenced file system. If the referenced file system is restricted or offline, a value 0 is returned. Range: [0 - 2^64-1]
snapshot-size-used		integer optional	[not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1]

Element definition: **aggr-disk-info**

[top]

Information about the disks

Name	Range	Type	Description
copy-percent	**[0..100]**	integer optional	This field indicates the percentage of copying that has completed. Attributes: non-creatable, non-modifiable
disk		disk-name optional	Name of the disk. Attributes: key, non-creatable, non-modifiable
disk-rpm	**[0..2^32-1]**	integer optional	Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, or if the rpm does not apply to this 'disk-type'. Attributes: non-creatable, non-modifiable
disk-type		string optional	Disk interface type. Attributes: non-creatable, non-modifiable
effective-disk-rpm	**[0..2^32-1]**	integer optional	Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-disk-rpm'. Disks with the same 'effective-disk-rpm' are compatible for use within the same aggregate. Omitted if information is unavailable, or excluded by 'desired-attributes'. Attributes: non-creatable, non-modifiable
effective-disk-type		string optional	Effective disk interface type. Disk can report different physical 'disk-type', but the same 'effective-disk-type'. Disk with the same 'effective-disk-type' are compatible for use within the same aggregate. Attributes: non-creatable, non-modifiable
is-cache		boolean optional	True if the disk is being used as cache. Attributes: non-creatable, non-modifiable

is-evacuating		boolean optional	True if the disk is being evacuated. Attributes: non-creatable, non-modifiable
is-failed		boolean optional	True if the disk is marked as failed. Attributes: non-creatable, non-modifiable
is-offline		boolean optional	True if the disk is marked as offline. Attributes: non-creatable, non-modifiable
is-recons-active		boolean optional	True if reconstruction is active on this disk. Attributes: non-creatable, non-modifiable
is-replacing		boolean optional	True if the disk is being replaced. Attributes: non-creatable, non-modifiable
is-sdc-active		boolean optional	True if the sick disk copy is active. Attributes: non-creatable, non-modifiable
is-sick		boolean optional	True if the disk is marked as sick. Attributes: non-creatable, non-modifiable
physical-size		size optional	Total raw capacity of this disk in bytes. Attributes: non-creatable, non-modifiable
position		disk-position-type optional	Position of the disk within aggregate. Attributes: non-creatable, non-modifiable
reconstruction-percent	**[0..100]**	integer optional	This field indicates the percentage of reconstruction that has completed. Attributes: non-creatable, non-modifiable
standard-disk-type		standarddisktype optional	Industry standard disk type. Attributes: non-creatable, non-modifiable Possible values: • "sata" - SATA, Serial Advanced Technology Attachment, • "fc" - FC, Fibre Channel, • "nl_sas" - NL-SAS, Near Line SAS, • "lun" - LUN, SCSI Logical Unit Number (e.g. Array), • "sas" - SAS, Serial Attached SCSI, • "scsi" - SCSI, Small Computer System Interface, • "ssd" - SSD, Solid-State Disk, • "vm_disk" - VM Disk, Hypervisor Virtual Disk, • "unknown" - Unknown Disk Type, • "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - CAP SSD, High Capacity Solid-State Disk, • "vm_lun" - VM LUN, Hypervisor Virtual LUN, • "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN, • "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk
syncmirror-pool		string optional	SyncMirror Pool to which disk is assigned. Attributes: non-creatable, non-modifiable
usable-size		size optional	Total usable capacity of this disk in bytes. Attributes: non-creatable, non-modifiable

Element definition: **aggr-raidgroup-entity-info**

[top]

Information about the individual RAID Groups

Name	Range	Type	Description
is-rg-recomputing-		boolean optional	True if the RAID Group is recomputing parity. Attributes: non-creatable, non-modifiable

parity			
is-rg-reconstructing		boolean optional	True if the RAID Group is reconstructing. Attributes: non-creatable, non-modifiable
is-scrub-active		boolean optional	This field indicates if scrub is currently active. Attributes: non-creatable, non-modifiable
raidgroup		string optional	Name of the Raid Group. Attributes: key, non-creatable, non-modifiable
rg-cksumstyle		checksum-style optional	Checksum Style of RAID Group. Attributes: non-creatable, non-modifiable
rg-raidtype		raid-type optional	RAID Type of RAID Group. Attributes: non-creatable, non-modifiable
rg-recons-percent	**[0..100]**	integer optional	This field indicates the percentage of reconstruction that has completed. Attributes: non-creatable, non-modifiable
rg-reparity-percent	**[0..100]**	integer optional	This field indicates the percentage of parity recomputation that has completed. Attributes: non-creatable, non-modifiable
rg-status		string optional	Status of the RAID Group. Attributes: non-creatable, non-modifiable
scrub-percent-complete	**[0..100]**	integer optional	This field indicates the percentage of scrubbing that has completed. Attributes: non-creatable, non-modifiable

Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

The following are the possible values for checksum type and their meanings.

- 'none' - The data written to the aggregate is not protected by checksum.
- 'block' - Every block of data block has checksum written in the same block.
- 'azcs' - Disk is divided into zones of N blocks and the checksum is written in the middle of zone.
- 'wafl' - The checksum information is maintained in the filesystem layer.
- 'mixed' - This means we have both 'block' and 'zone' checksum styles.
- 'unknown' - The checksum style is unknown.

[none]

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **disk-position-type**

[top]

Disk position type of the aggregate.

The following are the possible values for disk position type of the aggregate and their meanings.

- 'copy' - The disk serves as the destination for sick disk copy.
- 'data' - The disk serves as a data disk in the aggregate.
- 'dparity' - The disk serves as a double parity disk.
- 'tparity' - The disk serves as a triple parity disk.
- 'orphan' - The disk is in the process of being removed from the aggregate.
- 'parity' - The disk serves as a single parity disk.
- 'pending' - The disk is in the process of being added to a RAID group or is in the process of being reconstructed or sick disk copy.
- 'present' - The disk is part of a RAID group in an aggregate.
- 'shared' - The disk is being used as a shared disk.

[none]

Element definition: **raid-type**

[top]

Raid type of the aggregate.

The following are the possible values for RAID type and their meanings.

- 'raid_tec' - The aggregate is composed of RAID groups that can handle triple disk failures (Triple Erasure Code).
- 'raid_dp' - The aggregate is composed of RAID groups that can handle double disk failures (double parity).
- 'raid4' - The aggregate is composed of RAID groups that can can handle a single non-SSD-ZNS disk failure (single parity).
- 'raid_ep' - The aggregate is composed of RAID groups that can can handle a single SSD-ZNS disk failure (single parity) and one or more block failures inside each SSD-ZNS disk.
- 'raid0' - The aggregate does not have parity protection.
- 'mixed_raid_type' - Cache tier in the aggregate has a different RAID type from the capacity tier.

[none]

Element definition: **raidgroup-attributes**

[top]

Information about a raidgroup.

Name	Range	Type	Description
			Checksum style for the RAID group. The possible values are: • "none"

checksum-style		string optional	• "block" • "wafl" • "unknown" • "advanced_zoned"
is-cache-tier		boolean optional	"true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space).
is-recomputing-parity		boolean optional	"True" if the RAID group is currently recomputing parity.
is-reconstructing		boolean optional	"true" if the RAID group is currently reconstructing.
raidgroup-name		string optional	Name of the RAID group.
recomputing-parity-percentage		integer optional	The percentage of parity recomputation completed, if is-recomputing-parity is true. Range : [0-100]
reconstruction-percentage	**[0..100]**	integer optional	If reconstruction is going on, then the completion percentage.

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

APIs in Category: **audit**

audit-log-config-get
audit-log-config-modify
audit-log-get
audit-log-get-iter

APIs for managing administrative audit settings for the cluster. Audit logging can be enabled/disabled separately for 'get' (read-only) requests, for each of the following access modes: CLI (Command-Line Interface), SNMP, HTTP, and the Data ONTAP API (ONTAPI, ZAPI). The state of these flags is represented via the audit-info typedef.

audit-log-config-get

[top]

Get the cluster administrative audit settings

Input Name	Range	Type	Description
desired-attributes		audit-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		audit-info	The attributes of the audit.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

audit-log-config-modify

[top]

Modify the cluster administrative audit settings

Input Name	Range	Type	Description
cli-get		boolean optional	Enable Auditing of CLI Get Operations
http-get		boolean optional	Enable Auditing of HTTP Get Operations
ontapi-get		boolean optional	Enable Auditing of Data ONTAP API Get Operations
snmp-get		boolean optional	Enable Auditing of SNMP Get Operations

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

audit-log-get

[top]

Get the cluster administrative audit settings

Input Name	Range	Type	Description
desired-attributes		audit-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node that logged the entry.
seq	**[0..2^64-1]**	integer optional	Used as a tie-breaker for line entries with the same timestamp.
timestamp	**[0..2^31-1]**	integer	Timestamp of the log entry.

Output Name	Range	Type	Description
attributes		audit-log-info	The attributes of the audit.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

audit-log-get-iter

[top]

Iterate of audit log entries

Input Name	Range	Type	Description
desired-attributes		audit-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		audit-log-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the audit object. All audit objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		audit-log-info[]	The list of attributes of audit objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more audit objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

Element definition: **audit-info**

[top]

Audit logging can be enabled/disabled separately for 'get' (read-only) requests, for each of the following access modes: CLI (Command-Line Interface), SNMP, HTTP, and the Data ONTAP API (ONTAPI, ZAPI). The state of these flags is represented via the audit-info typedef. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cli-get		boolean optional	Enable Auditing of CLI Get Operations Attributes: non-creatable, modifiable
http-get		boolean optional	Enable Auditing of HTTP Get Operations Attributes: non-creatable, modifiable
ontapi-get		boolean optional	Enable Auditing of Data ONTAP API Get Operations Attributes: non-creatable, modifiable
snmp-get		boolean optional	Enable Auditing of SNMP Get Operations Attributes: non-creatable, modifiable

Element definition: **audit-log-info**

[top]

View the audit log When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

entry		string optional	The actual log message from the audit log file. Attributes: non-creatable, non-modifiable
node		node-name optional	Node that logged the entry. Attributes: key, non-creatable, non-modifiable
seq	**[0..2^64-1]**	integer optional	Used as a tie-breaker for line entries with the same timestamp. Attributes: key, non-creatable, non-modifiable
timestamp	**[0..2^31-1]**	integer optional	Timestamp of the log entry. Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **autosupport**

autosupport-budget-get
autosupport-budget-get-iter
autosupport-budget-get-total-records
autosupport-budget-modify
autosupport-check-iter
autosupport-compliant-get
autosupport-compliant-get-iter
autosupport-compliant-get-total-records
autosupport-config-get
autosupport-config-get-iter
autosupport-config-get-total-records
autosupport-config-modify
autosupport-destinations-get
autosupport-destinations-get-iter
autosupport-destinations-get-total-records
autosupport-download-get
autosupport-download-get-iter
autosupport-history-cancel
autosupport-history-get
autosupport-history-get-iter
autosupport-history-get-total-records
autosupport-history-retransmit
autosupport-invoke
autosupport-invoke-core-upload
autosupport-invoke-diagnostic
autosupport-invoke-diagnostic-iter
autosupport-invoke-iter
autosupport-invoke-performance-archive
autosupport-invoke-performance-archive-iter

This set of ZAPIs provides visibility into the AutoSupport infrastructure of the system. The AutoSupport tool collects valuable information on the state of each node in the cluster, which aids in the diagnosis of hardware and software failures.The APIs are divided into the following major features:

- Configuration: manage AutoSupport general settings
- Destinations: view the current AutoSupport delivery destinations
- Triggers: manage what is collected for each AutoSupport trigger
- Manifest: view detailed collection information for a particular AutoSupport
- History: view a log of previously generated AutoSupports
- Budgets: manage AutoSupport collection size and time limits

autosupport-invoke-splog
autosupport-manifest-get-iter
autosupport-manifest-get-total-records
autosupport-trigger-get
autosupport-trigger-get-iter
autosupport-trigger-get-total-records
autosupport-trigger-modify

autosupport-budget-get

[top]

Get AutoSupport time and size limits for the given node and subsystem.

Input Name	Range	Type	Description
desired-attributes		autosupport-budget-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	The name of a filer on which the AutoSupport tool is running.
			The name of a subsystem from which AutoSupport collects data. Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node,

subsystem		asup-subsystems	• "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor

Output Name	Range	Type	Description
attributes		autosupport-budget-info	The attributes of the autosupport-budget.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

autosupport-budget-get-iter

[top]

Get AutoSupport time and size limits per subsystem for all nodes.

Input Name	Range	Type	Description
desired-attributes		autosupport-budget-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-budget-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-budget object. All autosupport-budget objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-budget-info[] optional	The list of attributes of autosupport-budget objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-budget objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-budget-get-total-records

[top]

Return the total number of records.

Output Name	Range	Type	Description
count	[0..2^64-1]	integer	The total number of autosupport-budget objects.

autosupport-budget-modify

[top]

Modify AutoSupport time and size limits per subsystem.

Input Name	Range	Type	Description
diagnostic-size-limit	**[0..2^63-1]**	integer optional	The maximum allowable diagnostic content collection size (in bytes) for the subsystem.
diagnostic-time-limit		string optional	The maximum allowable diagnostic content collection time (in seconds) for the subsystem.
node-name		string	The name of a filer on which the AutoSupport tool is running.
size-limit	**[0..2^63-1]**	integer optional	The maximum allowable basic and troubleshooting content collection size (in bytes) for the subsystem.
subsystem		asup-subsystems	The name of a subsystem from which AutoSupport collects data. Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node,

			"vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
time-limit		string optional	The maximum allowable basic and troubleshooting content collection time (in seconds) for the subsystem.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-check-iter

[top]

Get Current Status of AutoSupport Subsystem for all nodes.

Input Name	Range	Type	Description
desired-attributes		autosupport-check-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		autosupport-	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-check

query		check-info optional	object. All autosupport-check objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-check-info[] optional	The list of attributes of autosupport-check objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-check objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-compliant-get

[top]

Get AutoSupport compliance hash mapping

Input Name	Range	Type	Description
desired-attributes		autosupport-compliant-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
plaintext		string	Plaintext

Output Name	Range	Type	Description
attributes		autosupport-compliant-info	The attributes of the autosupport-compliant.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-compliant-get-iter

[top]

Get AutoSupport compliance hash mapping

Input Name	Range	Type	Description
desired-attributes		autosupport-compliant-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-compliant-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-compliant object. All autosupport-compliant objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-compliant-info[] optional	The list of attributes of autosupport-compliant objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-compliant objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-compliant-get-total-records

[top]

Return the total number of records.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of autosupport-compliant objects.

autosupport-config-get

[top]

Get AutoSupport configuration settings for the given node.

Input Name	Range	Type	Description
desired-attributes		autosupport-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	The name of the filer that owns the AutoSupport configuration.

Output Name	Range	Type	Description
attributes		autosupport-config-info	The attributes of the autosupport-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-config-get-iter

[top]

Get AutoSupport configuration settings for all nodes.

Input Name	Range	Type	Description
desired-attributes		autosupport-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-config object. All autosupport-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-config-info[] optional	The list of attributes of autosupport-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-config objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-config-get-total-records

[top]

Return the total number of records.

Output Name	Range	Type	Description
count	[0..2^64-1]	integer	The total number of autosupport-config objects.

autosupport-config-modify

[top]

Modify AutoSupport configuration settings for the given node.

Input Name	Range	Type	Description
from		mail-address optional	The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter.
is-enabled		boolean optional	Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off.
is-local-collection-enabled		boolean optional	Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false.
is-nht-data-enabled		boolean optional	Used to enable / disable collection of disk health data.
is-node-in-subject		boolean optional	Specifies whether the filer's hostname should be part of an AutoSupport message's subject field.
is-ondemand-download-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true.
is-ondemand-enabled		boolean optional	Specifies whether AutoSupport OnDemand is enabled. Default is true.
is-ondemand-remote-diag-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true.
is-perf-data-enabled		boolean optional	Used to enable / disable collection of Performance AutoSupport data.
is-private-data-removed		boolean optional	Used to enable / disable removal of customer-supplied data.
is-reminder-enabled		boolean optional	Specifies whether to enable / disable AutoSupport reminders.
is-support-enabled		boolean optional	Specifies whether AutoSupport notification to technical support is enabled.
is-throttle-enabled		boolean optional	Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages.
mail-hosts		string[] optional	The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954).
max-download-rate	**[0..2^63-1]**	integer optional	Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps).
max-http-size	**[0..2^63-1]**	integer optional	Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB).
max-smtp-	**[0..2^63-**	integer	Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for

size	**1]**	optional	unlimited) or greater than or equal to 2097152 (2MB).
max-upload-rate	**[0..2^63-1]**	integer optional	Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps).
minimum-private-data-length	**[2..1024]**	integer optional	Minimum Length for Sensitive Data
node-name		string	The name of the filer that owns the AutoSupport configuration.
node-specific-from		boolean optional	Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false.
noteto		mail-address[] optional	(DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages.
ondemand-polling-interval	**[0..2^32-1]**	integer optional	The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880.
ondemand-server-url		string optional	The AutoSupport OnDemand Server URL.
partner-address		mail-address[] optional	Specifies up to five partner vendor recipients of full AutoSupport e-mail messages.
payload-format		compression-format optional	The format used to compress the AutoSupport message payload. Possible values: • "7z" - 7-Zip Archive, • "tgz" - Zipped Tarball
periodic-tx-window		string optional	The transmission window (seconds).
post-url		string optional	The URL used to deliver AutoSupport messages via HTTP POST.
proxy-url		string optional	Optional proxy host for AutoSupport message delivery via HTTP.
put-url		string optional	The URL used to deliver AutoSupport messages via HTTP PUT.
retry-count	**[0..2^32-1]**	integer optional	The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30.
retry-interval		string optional	The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message.
support-address		mail-address[] optional	The e-mail address of Support.
to		mail-address[] optional	Specifies up to five recipients of full AutoSupport e-mail messages.
transport		asup-transport optional	The name of the transport protocol used to deliver AutoSupport messages. Possible values: • "smtp" , • "http" - (DEPRECATED), • "https"
validate-digital-		boolean	Validate Digital Certificate Received

certificate		optional	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-destinations-get

[top]

Get the list of AutoSupport destinations for the given node.

Input Name	Range	Type	Description
desired-attributes		autosupport-destinations-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	The name of the filer that owns this destination configuration.

Output Name	Range	Type	Description
attributes		autosupport-destinations-info	The attributes of the autosupport-destinations.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-destinations-get-iter

[top]

Get the list of AutoSupport destinations for all nodes.

Input Name	Range	Type	Description
desired-attributes		autosupport-destinations-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-destinations-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-destinations object. All autosupport-destinations objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		autosupport-	

attributes-list		destinations-info[] optional	The list of attributes of autosupport-destinations objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-destinations objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-destinations-get-total-records

[top]

Return the total number of records. This sould be equal to the number of nodes in the cluster.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of autosupport-destinations objects.

autosupport-download-get

[top]

Get a download record for the given AutoSupport.

Input Name	Range	Type	Description
desired-attributes		autosupport-download-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
id	**[0..2^64-1]**	integer	The download ID.
node-name		string	The name of the filer that performed the download.

Output Name	Range	Type	Description
attributes		autosupport-download-info	The attributes of the autosupport-download.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-download-get-iter

[top]

Get the download records.

Input Name	Range	Type	Description
desired-attributes		autosupport-download-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-download-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-download object. All autosupport-download objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-download-info[] optional	The list of attributes of autosupport-download objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-download objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-history-cancel

[top]

Cancel an AutoSupport Transmission.

Input Name	Range	Type	Description
destination		asup-destination optional	Destination for This AutoSupport Possible values: • "smtp" - Transmitted via SMTP, • "http" - Transmitted via HTTP or HTTPS, • "noteto" - (DEPRECATED) noteto destination, • "retransmit" - Transmitted to a specified URI destination
node-name		string	Node
seq-num	**[0..2^64-1]**	integer	AutoSupport Sequence Number

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-history-get

[top]

Get a history record for the given AutoSupport.

Input Name	Range	Type	Description
desired-attributes		autosupport-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		asup-destination	The transport protocol for this AutoSupport message's destination. Possible values: • "smtp" - Transmitted via SMTP, • "http" - Transmitted via HTTP or HTTPS, • "noteto" - (DEPRECATED) noteto destination, • "retransmit" - Transmitted to a specified URI destination
node-name		string	The name of the filer where the AutoSupport message was previously generated.
seq-num	**[0..2^64-1]**	integer	The AutoSupport message sequence number.

Output Name	Range	Type	Description
attributes		autosupport-history-info	The attributes of the autosupport-history.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-history-get-iter

[top]

Get the history records for the last 50 AutoSupport messages.

Input Name	Range	Type	Description
desired-attributes		autosupport-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-history object. All autosupport-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		autosupport-	

attributes-list		history-info[] optional	The list of attributes of autosupport-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-history-get-total-records

[top]

Return the total number of records.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of autosupport-history objects.

autosupport-history-retransmit

[top]

Selectively retransmit a previously collected AutoSupport message.

Input Name	Range	Type	Description
node-name		string	The name of the filer on which the AutoSupport message will be retransmitted.
seq-num	**[0..2^64-1]**	integer	The AutoSupport message sequence number.
size-limit	**[0..2^63-1]**	integer optional	The maximum allowed size for the retransmitted AutoSupport.
uri		string	The destination for the retransmitted AutoSupport.

Errno	Description
E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME	

autosupport-invoke

[top]

Generate a new AutoSupport message

Input Name	Range	Type	Description
force		boolean optional	Force generation, even if AutoSupport is disabled in the system. The default value is false.
message		string optional	Text to include as part of the subject of the AutoSupport message.

node-name		string	The name of the filer on which the AutoSupport message will be generated.
type		asup-invoke-style	The type of AutoSupport to generate. Possible values: • "test" - Test AutoSupport send and receive only, • "performance" - Generate a Performance AutoSupport as requested by technical support, • "all" - Send all AutoSupport data without time or size limit, as requested by technical support
uri		string optional	Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Output Name	Range	Type	Description
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-core-upload

[top]

Generate and send an AutoSupport message with an existing core file.

Input Name	Range	Type	Description
case-number		string optional	Support case number to associate with this core file.
core-filename		string	Existing core file to be included in this AutoSupport.
force		boolean optional	Force generation, even if AutoSupport is disabled in the system. The default value is false.
message		string optional	Text to include as part of the subject of the AutoSupport message.
node-name		string	The name of the filer on which the AutoSupport message will be generated.
uri		string optional	Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. Supported schemes are file, http & https. As of Data ONTAP 9.3, the file scheme is not supported.

Output Name	Range	Type	Description
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME	

autosupport-invoke-diagnostic

[top]

Generate and send an AutoSupport message with diagnostic content from specified subsystems.

Input Name	Range	Type	Description
force		boolean optional	Force collection and delivery, even if Diagnostic AutoSupport is disabled in the system. The default value is false.
message-subject		string optional	Text to include as part of the subject of the AutoSupport message.
node-name		string	The name of the filer on which the AutoSupport message will be generated.
			List of subsystems whose diagnostic content is to be included in this AutoSupport. Specify up to 4 subsystems. Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,

subsystems		asup-subsystems[]	"splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
uri		string optional	The destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Output Name	Range	Type	Description
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-diagnostic-iter

[top]

Generate and send an AutoSupport message with diagnostic content from specified subsystems.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false
force		boolean optional	Force collection and delivery, even if Diagnostic AutoSupport is disabled in the system. The default value is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of autosupport objects to be operated in this call. Default: 20
message-subject		string optional	Text to include as part of the subject of the AutoSupport message.
query		autosupport-config-info	If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true
			List of subsystems whose diagnostic content is to be included in this AutoSupport. Specify up to 4 subsystems. Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly),

subsystems		asup-subsystems[]	"nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload,

			"flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
uri		string optional	The destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Output Name	Range	Type	Description
failure-list		autosupport-invoke-diagnostic-iter-info[] optional	Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching autosupport objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of autosupport objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of autosupport objects that matched the query and were successfully processed.
success-list		autosupport-invoke-diagnostic-iter-info[] optional	The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-iter

[top]

Generate a new AutoSupport message

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false
force		boolean optional	Force generation, even if AutoSupport is disabled in the system. The default value is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of autosupport objects to be operated in this call. Default: 20
message		string optional	Text to include as part of the subject of the AutoSupport message.
query		autosupport-config-info	If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
type		asup-invoke-style	The type of AutoSupport to generate. Possible values: • "test" - Test AutoSupport send and receive only, • "performance" - Generate a Performance AutoSupport as requested by technical support, • "all" - Send all AutoSupport data without time or size limit, as requested by technical support
uri		string optional	Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Output Name	Range	Type	Description
failure-list		autosupport-invoke-iter-info[] optional	Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string	Tag for the next call. Not present when there are no more

		optional	matching autosupport objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of autosupport objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of autosupport objects that matched the query and were successfully processed.
success-list		autosupport-invoke-iter-info[] optional	The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-performance-archive

[top]

Generate and send an AutoSupport message with performance archives.

Input Name	Range	Type	Description
case-number		string optional	Support case number to associate with this performance archive file.
duration		string optional	Duration of the performance archives to collect in the AutoSupport. This is expressed as a quantity followed by a character indicating units of time. Allowed units are h|m|s for hours, minutes and seconds. Example '12h' for 12 hours
end-date	**[0..2^31-1]**	integer optional	End date of files to collect from the performance archive dataset.
force		boolean optional	Force generation, even if AutoSupport is disabled in the system. The default value is false.
message		string optional	Text to include as part of the subject of the AutoSupport message.
node-name		string	The name of the filer on which the AutoSupport message will be generated.
start-date	**[0..2^31-1]**	integer	Start date of files to collect from the performance archive dataset.
uri		string optional	Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Output Name	Range	Type	Description
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-performance-archive-iter

[top]

Generate and send an AutoSupport message with performance archives.

Input Name	Range	Type	Description
case-number		string optional	Support case number to associate with this performance archive file.
continue-on-failure		boolean optional	This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false
duration		string optional	Duration of the performance archives to collect in the AutoSupport. This is expressed as a quantity followed by a character indicating units of time. Allowed units are h|m|s for hours, minutes and seconds. Example '12h' for 12 hours
end-date	**[0..2^31-1]**	integer optional	End date of files to collect from the performance archive dataset.
force		boolean optional	Force generation, even if AutoSupport is disabled in the system. The default value is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of autosupport objects to be operated in this call. Default: 20
message		string optional	Text to include as part of the subject of the AutoSupport message.
query		autosupport-config-info	If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true
start-date	**[0..2^31-1]**	integer	Start date of files to collect from the performance archive dataset.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
uri		string optional	Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Output Name	Range	Type	Description
failure-list		autosupport-invoke-performance-archive-iter-info[] optional	Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching autosupport objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of autosupport objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of autosupport objects that matched the query and were successfully processed.
success-list		autosupport-invoke-performance-archive-iter-info[] optional	The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
E_ASUP_COLLECTION_DISABLED	
E_ASUP_TRIGGER_DISABLED	
E_ASUP_TRIGGER_THROTTLED	

autosupport-invoke-splog

[top]

Generate a Remote Service Processor Log AutoSupport message

Input Name	Range	Type	Description
force		boolean optional	Force generation, even if AutoSupport is disabled in the system. The default value is false.
log-sequence		integer optional	The sequence number of the logs to be uploaded
remote-node		node-name	The host node name where the Service Processor is present
uri		string optional	Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-manifest-get-iter

[top]

Get a detailed manifest for the contents of an AutoSupport.

Input Name	Range	Type	Description

desired-attributes		autosupport-manifest-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-manifest-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-manifest object. All autosupport-manifest objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-manifest-info[] optional	The list of attributes of autosupport-manifest objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-manifest objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-manifest-get-total-records

[top]

Return the total number of records.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of autosupport-manifest objects.

autosupport-trigger-get

[top]

Get the AutoSupport trigger data for the given node and EMS message.

Input Name	Range	Type	Description
desired-attributes		autosupport-trigger-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	Node
trigger		string	EMS Message

Output Name	Range	Type	Description

attributes		autosupport-trigger-info	The attributes of the autosupport-trigger.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

autosupport-trigger-get-iter

[top]

Get a list of the AutoSupport trigger data for all nodes.

Input Name	Range	Type	Description
desired-attributes		autosupport-trigger-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		autosupport-trigger-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-trigger object. All autosupport-trigger objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		autosupport-trigger-info[] optional	The list of attributes of autosupport-trigger objects.
next-tag		string optional	Tag for the next call. Not present when there are no more autosupport-trigger objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

autosupport-trigger-get-total-records

[top]

Return the total number of records.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of autosupport-trigger objects.

autosupport-trigger-modify

[top]

Modify the AutoSupport trigger data for the given node and EMS message.

Input Name	Range	Type	Description
basic-additional		asup-subsystems[] optional	Additional Subsystems Reporting Basic Info Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node,

			• "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
node-name		string	Node
noteto-enabled		string optional	(DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled.
size-limit		size optional	The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest.
time-limit		string optional	The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest.
to-enabled		string optional	Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled.
trigger		string	EMS Message
			Additional Subsystems Reporting Troubleshooting Info Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node

troubleshooting-additional		asup-subsystems[] optional	(hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM,

			"corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

- "smtp" - Transmitted via SMTP,
- "http" - Transmitted via HTTP or HTTPS,
- "noteto" - (DEPRECATED) noteto destination,
- "retransmit" - Transmitted to a specified URI destination

[none]

Element definition: **asup-invoke-style**

[top]

test|performance|all Possible values:

- "test" - Test AutoSupport send and receive only,
- "performance" - Generate a Performance AutoSupport as requested by technical support,
- "all" - Send all AutoSupport data without time or size limit, as requested by technical support

[none]

Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
- "wafl" - WAFL specific information for a node,
- "mot" - MOT specific information for a node,
- "ha" - HA specific information for a node,
- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,
- "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,
- "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,
- "splog_rnode" - On demand collected remote SP logs,
- "hm" - Health Monitor Alerts specific information,
- "kcs" - Kernel Cluster Services information for a node,
- "av" - Antivirus specific information for a node,
- "vserver_dr" - Vserver disaster recovery,
- "nwd" - Node Watchdog specific information for a node,
- "vscan" - Vscan specific information for a node,
- "san_ffdc" - SAN specific trace dumps for a node,
- "cluster_peer" - Cluster peering specific dumps for a node,
- "crs" - Config Replication Service information,
- "cps" - Cluster Persistency Storage information,
- "memevt" - MemEVT gathered data from a node,
- "san_fcp" - FCP target driver related information for a node,
- "ndmp" - NDMP information,
- "ndu" - NDU specific information,
- "name_services" - Name Services specific information,
- "san_vdom" - SAN VDOM specific information for a node,
- "snaplock" - SnapLock specific information for a node,
- "key_manager" - Key Manager specific information,
- "appdm" - Application DM,
- "corefile" - Corefile to upload,

- "flexcache" - FlexCache,
- "nvmf" - NVMF specific information,
- "snapshot" - Snapshots specific information,
- "rdma" - RDMA driver and OFED layer specific information,
- "ndo" - NDO specific information,
- "metroclustertcp" - MetroCluster TCP specific information for a node,
- "metroclusterstats" - MetroCluster statistics for data analytics,
- "object_store_server" - Object store server specific information for a node,
- "storage_stats" - Storage statistics for data analytics,
- "ipsec" - IPsec specific information,
- "hm_switch" - Ethernet switch health monitoring information,
- "arw" - Anti-ransomware specific information,
- "svm_migrate" - Vserver migrate information,
- "nic" - NIC driver specific information,
- "splog_full" - Full SPLOG Collection from Service-Processor

[none]

Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" - (DEPRECATED),
- "https"

[none]

Element definition: **autosupport-budget-info**

[top]

AutoSupport budget data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
def-diagnostic-size-limit	**[0..2^63-1]**	integer optional	The default setting for diagnostic content collection size (in bytes) for the subsystem. Attributes: non-creatable, non-modifiable
def-diagnostic-time-limit		string optional	The default setting for diagnostic content collection time (in seconds) for the subsystem. Attributes: non-creatable, non-modifiable
def-size-limit	**[0..2^63-1]**	integer optional	The default setting for basic and troubleshooting content collection size (in bytes) for the subsystem. Attributes: non-

			creatable, non-modifiable
def-time-limit		string optional	The default setting for basic and troubleshooting content collection time (in seconds) for the subsystem. Attributes: non-creatable, non-modifiable
diagnostic-size-limit	**[0..2^63-1]**	integer optional	The maximum allowable diagnostic content collection size (in bytes) for the subsystem. Attributes: non-creatable, modifiable
diagnostic-time-limit		string optional	The maximum allowable diagnostic content collection time (in seconds) for the subsystem. Attributes: non-creatable, modifiable
node-name		string optional	The name of a filer on which the AutoSupport tool is running. Attributes: key, non-creatable, non-modifiable
size-limit	**[0..2^63-1]**	integer optional	The maximum allowable basic and troubleshooting content collection size (in bytes) for the subsystem. Attributes: non-creatable, modifiable
subsystem		asup-subsystems optional	The name of a subsystem from which AutoSupport collects data. Attributes: key, non-creatable, non-modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information,

			• "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
time-limit		string optional	The maximum allowable basic and troubleshooting content collection time (in seconds) for the subsystem. Attributes: non-creatable, modifiable

Element definition: **autosupport-check-info**

[top]

Status of AutoSupport Subsystem When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
check-category		string optional	Category of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values: • "http_https" - AutoSupport HTTP/HTTPS Destination, • "smtp" - AutoSupport SMTP Destination, • "on_demand" - AutoSupport OnDemand Destination, • "configuration" - AutoSupport Configuration
check-type		string optional	Type of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values: • "rollup_status" - Overall Status for a category, • "http_put_destination" - HTTP/HTTPS PUT Destination, • "http_post_destination" - HTTP/HTTPS POST Destination, • "mail_server" - AutoSupport MailServer, • "ondemand_server" - AutoSupport OnDemand Server, • "configuration" - AutoSupport Configuration
corrective-action		string optional	Action to correct the error seen as the result of this check. Attributes: non-creatable, non-modifiable
error-detail		string optional	Detailed Error String for this AutoSupport Check. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer on which the check is being performed. Attributes: key, non-creatable, non-modifiable
status		asup-check-status optional	Status of this AutoSupport Check. Attributes: non-creatable, non-modifiable Possible values: • "ok" - The Status of the AutoSupport check is ok., • "warning" - Please verify the intended behavior., • "failed" - AutoSupport check failed., • "not_run" - AutoSupport check could not be run.

Element definition: **autosupport-compliant-info**

[top]

Compliant AutoSupport has data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hash		string optional	hash Attributes: non-creatable, non-modifiable
last-used-sequence		seqnum optional	Last AutoSupport that used this hash Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

plaintext		string optional	Plaintext Attributes: key, non-creatable, non-modifiable

Element definition: **autosupport-config-info**

[top]

AutoSupport configuration data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
from		mail-address optional	The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable
is-enabled		boolean optional	Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable
is-local-collection-enabled		boolean optional	Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable
is-nht-data-enabled		boolean optional	Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable
is-node-in-subject		boolean optional	Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable
is-ondemand-download-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-enabled		boolean optional	Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-remote-diag-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-perf-data-enabled		boolean optional	Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable
is-private-data-removed		boolean optional	Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable
is-reminder-		boolean	Specifies whether to enable / disable AutoSupport reminders.

enabled		optional	Attributes: non-creatable, modifiable
is-support-enabled		boolean optional	Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable
is-throttle-enabled		boolean optional	Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable
last-subject		string optional	The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable
last-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
mail-hosts		string[] optional	The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable
max-download-rate	**[0..2^63-1]**	integer optional	Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable
max-http-size	**[0..2^63-1]**	integer optional	Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-smtp-size	**[0..2^63-1]**	integer optional	Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-upload-rate	**[0..2^63-1]**	integer optional	Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable
minimum-private-data-length	**[2..1024]**	integer optional	Minimum Length for Sensitive Data Attributes: non-creatable, modifiable
node-name		string optional	The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable
node-specific-from		boolean optional	Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable
noteto		mail-address[] optional	(DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable
ondemand-polling-interval	**[0..2^32-1]**	integer optional	The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable
ondemand-server-url		string optional	The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable
partner-address		mail-address[] optional	Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
payload-format		compression-format	The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values: • "7z" - 7-Zip Archive,

		optional	• "tgz" - Zipped Tarball
periodic-tx-window		string optional	The transmission window (seconds). Attributes: non-creatable, modifiable
post-url		string optional	The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable
proxy-url		string optional	Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable
put-url		string optional	The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable
retry-count	**[0..2^32-1]**	integer optional	The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable
retry-interval		string optional	The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable
support-address		mail-address[] optional	The e-mail address of Support. Attributes: non-creatable, modifiable
to		mail-address[] optional	Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
transport		asup-transport optional	The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values: • "smtp" , • "http" - (DEPRECATED), • "https"
validate-digital-certificate		boolean optional	Validate Digital Certificate Received Attributes: non-creatable, modifiable

Element definition: **autosupport-destinations-info**

[top]

AutoSupport destination summary When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destinations		string[] optional	A comma separated list of destinations used to deliver AutoSupport messages. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer that owns this destination configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **autosupport-download-info**

[top]

AutoSupport OnDemand download data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
download-type		aod-download optional	The type of the download. Attributes: non-creatable, non-modifiable Possible values: • "licensing" - Download licenses for a node or cluster
error		string optional	The error string recorded for this download. This string may be empty. Attributes: non-creatable, non-modifiable
id	**[0..2^64-1]**	integer optional	The download ID. Attributes: key, non-creatable, non-modifiable
last-modification-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last update to this download record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer that performed the download. Attributes: key, non-creatable, non-modifiable
result		string optional	The path to the downloaded results on the filer. Attributes: non-creatable, non-modifiable
status		aod-download-status optional	The status for this download. Attributes: non-creatable, non-modifiable Possible values: • "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server, • "request_failed" - Download request could not be transmitted, • "not_supported" - Download request type is not known by the AutoSupport OnDemand server, • "transferring" - Requested data is being downloaded, • "completed" - Download has completed successfully, • "cancelled" - Download was cancelled, • "failed" - Download failed to complete

Element definition: **autosupport-history-info**

[top]

AutoSupport history data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attempt-count	**[0..2^32-1]**	integer optional	The number of attempted deliveries for this AutoSupport message. Attributes: non-creatable, non-modifiable
decompressed-size		size optional	The decompressed size in bytes of the Autosupport message. Attributes: non-creatable, non-modifiable
destination		asup-destination optional	The transport protocol for this AutoSupport message's destination. Attributes: key, non-creatable, non-modifiable Possible values: • "smtp" - Transmitted via SMTP, • "http" - Transmitted via HTTP or HTTPS, • "noteto" - (DEPRECATED) noteto destination, • "retransmit" - Transmitted to a specified URI destination
generation-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the original generation (collection) of this AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
last-modification-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last update to this history record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
node-name		string optional	The name of the filer where the AutoSupport message was previously generated. Attributes: key, non-creatable, non-modifiable
percent-complete	**[0..100]**	integer optional	The perentage of the AutoSupport message transmitted successfully. Attributes: non-creatable, non-modifiable
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number. Attributes: key, non-creatable, non-modifiable
size		size optional	The compressed size in bytes of the AutoSupport message. Attributes: non-creatable, non-modifiable
status		asup-status optional	The delivery status for this AutoSupport message. Attributes: non-creatable, non-modifiable Possible values: • "initializing" - ASUP request is being processed, • "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information, • "collection_in_progress" - The AutoSupport Collection is in progress, • "queued" - ASUP is queued for delivery, • "transmitting" - ASUP transmission is in progress, • "sent_successful" - ASUP was successfully sent, • "ignore" - ASUP was processed successfully but has no destinations configured, • "re_queued" - ASUP transmission failed and has been re-queued, • "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded, • "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery, • "cancelled" - ASUP transmission cancelled
subject		string optional	The subject field of this AutoSupport message. Attributes: non-creatable, non-modifiable

time-remaining		time-interval optional	The estimate of the amount of time for the AutoSupport Message to be fully transmitted. Attributes: non-creatable, non-modifiable
total-time	**[0..2^64-1]**	integer optional	The total collection time in msec of the Autosupport message. Attributes: non-creatable, non-modifiable
trigger		string optional	The name of the EMS event that triggered this AutoSupport message. Attributes: non-creatable, non-modifiable
upload-rate		byte-rate optional	The approximate rate in bytes per second of the AutoSupport Message upload. Attributes: non-creatable, non-modifiable
uri		string optional	The URI used to deliver this AutoSupport message. Attributes: non-creatable, non-modifiable

Element definition: **autosupport-invoke-diagnostic-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

Name	Range	Type	Description
autosupport-key		autosupport-config-info	The keys for the autosupport object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Element definition: **autosupport-invoke-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

Name	Range	Type	Description
autosupport-key		autosupport-config-info	The keys for the autosupport object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Element definition: **autosupport-invoke-performance-archive-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

Name	Range	Type	Description

autosupport-key		autosupport-config-info	The keys for the autosupport object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
seq-num	**[0..2^64-1]**	integer optional	The AutoSupport message sequence number.

Element definition: **autosupport-manifest-info**

[top]

AutoSupport manifest data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
body-file		string optional	The AutoSupport Content Filename for this Data Attributes: non-creatable, non-modifiable
cmd		string optional	Actual Data Being Collected Attributes: non-creatable, non-modifiable
cmd-tgt		autosupport-cmd-tgt optional	Execution Domain for Command Attributes: non-creatable, non-modifiable Possible values: • "bsd" - Command executed by BSD, • "smf_table" - Command selects SMF table, • "file" - Command indicates file to collect, • "dblade" - Collect from dbladecli, • "dblade_file" - Collect a file from dblade. Could be partner file, • "zapi_xml" - Response in XML format, • "custom_fx" - Collect custom function output file
content-type		asup-content-type optional	AutoSupport Content Type for this Data Attributes: non-creatable, non-modifiable Possible values: • "basic" - ASUP will contain minimal set of data for this subsystem, • "troubleshooting" - ASUP will contain detailed collection of data for this subsystem, • "diagnostic" - ASUP will contain diagnostic data for this subsystem
error		string optional	Textual Description of Error Attributes: non-creatable, non-modifiable
node-name		string optional	Node Attributes: key, non-creatable, non-modifiable
orig-size-collected	**[0..2^63-1]**	integer optional	Initial Number of Bytes Collected Attributes: non-creatable, non-modifiable

prio-num	**[0..2^32-1]**	integer optional	Priority Order of Collection Attributes: key, non-creatable, non-modifiable
query		string optional	Table Query for XML Collection Attributes: non-creatable, non-modifiable
seq-num	**[0..2^64-1]**	integer optional	AutoSupport Sequence Number Attributes: key, non-creatable, non-modifiable
size-collected	**[0..2^63-1]**	integer optional	Number of Bytes Collected Attributes: non-creatable, non-modifiable
size-compressed	**[0..2^63-1]**	integer optional	Compressed Size Attributes: non-creatable, non-modifiable
status		asup-manifest-status optional	Status of this Data Item Attributes: non-creatable, non-modifiable Possible values: • "requested" - ASUP request has been added to the queue and is waiting processing by the collector, • "working" - ASUP Collector is actively gathering the needed data, • "file_not_found" - ASUP collection failed, a needed file is missing, • "no_such_table" - ASUP collection was unable to find the requested SMF table, • "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available, • "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available, • "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available, • "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available, • "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits, • "general_error" - ASUP collection failed, additional information if any will be in the Error String field, • "completed" - ASUP collection is complete, ready for delivery, • "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode, • "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation, • "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode, • "content_empty" - ASUP content was collected successfully, but output was empty, • "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field, • "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available, • "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit, • "collection_incomplete" - ASUP content collection incomplete, • "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit, • "collection_truncated_age" - ASUP file truncated due to age and partial data is available
			Subsystem Attributes: non-creatable, non-modifiable Possible values:

subsystem		asup-subsystems optional	"platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node,

			"key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
time-collected	**[0..2^64-1]**	integer optional	Collection Time for this Data Item (ms) Attributes: non-creatable, non-modifiable

Element definition: **autosupport-trigger-info**

[top]

AutoSupport trigger data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-content		asup-content-type[] optional	Additional Content Flag Attributes: non-creatable, non-modifiable Possible values: • "basic" - ASUP will contain minimal set of data for this subsystem, • "troubleshooting" - ASUP will contain detailed collection of data for this subsystem, • "diagnostic" - ASUP will contain diagnostic data for this subsystem
			Additional Subsystems Reporting Basic Info Attributes: non-creatable, modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node,

basic-additional		asup-subsystems[] optional	"performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node,

			"snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
			Default Subsystems Reporting Basic Info Attributes: non-creatable, non-modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a

basic-default		asup-subsystems[] optional	node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
node-name		string optional	Node Attributes: key, non-creatable, non-modifiable

noteto-enabled		string optional	(DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable
size-limit		size optional	The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest. Attributes: non-creatable, modifiable
time-limit		string optional	The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest. Attributes: non-creatable, modifiable
to-enabled		string optional	Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable
trigger		string optional	EMS Message Attributes: key, non-creatable, non-modifiable
		asup-	Additional Subsystems Reporting Troubleshooting Info Attributes: non-creatable, modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node, • "snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,

troubleshooting-additional		subsystems[] optional	"splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information, • "rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor
			Default Subsystems Reporting Troubleshooting Info Attributes: non-creatable, non-modifiable Possible values: • "platform" - Hardware information about the node, • "mhost" - User Space application information for a node, • "log_files" - Log files for a node, • "performance" - Performance statistics for a node (event and weekly), • "performance_asup" - Performance statistics for a node (hourly), • "nht" - This subsystem gathers the /mroot/etc/log/nht_info content, • "san" - SAN specific information for a node,

troubleshooting-default		asup-subsystems[] optional	"snapvault" - SnapVault specific information for a node, • "snapmirror" - Snapmirror specific information for a node, • "dedupe" - Dedupe specific information for a node, • "nfs" - NFS specific information for a node, • "wafl" - WAFL specific information for a node, • "mot" - MOT specific information for a node, • "ha" - HA specific information for a node, • "networking" - Networking specific information for a node, • "cifs" - CIFS specific information for a node, • "fpolicy" - Fpolicy specific information for a node, • "multistore" - Multistore specific information for a node, • "raid" - RAID specific information for a node, • "storage" - Storage specific information for a node, • "asup_ems" - ASUP EMS specific information for a node, • "tape" - Tape specific information for a node, • "kernel" - kernel specific information for a node, • "secd" - Security Daemon specific information for a node, • "metrocluster" - Metrocluster specific information for a node, • "mandatory" - Mandatory Basic information for a node, • "repository" - Repository specific information for a node, • "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally, • "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , • "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot, • "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, • "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW, • "splog_rnode" - On demand collected remote SP logs, • "hm" - Health Monitor Alerts specific information, • "kcs" - Kernel Cluster Services information for a node, • "av" - Antivirus specific information for a node, • "vserver_dr" - Vserver disaster recovery, • "nwd" - Node Watchdog specific information for a node, • "vscan" - Vscan specific information for a node, • "san_ffdc" - SAN specific trace dumps for a node, • "cluster_peer" - Cluster peering specific dumps for a node, • "crs" - Config Replication Service information, • "cps" - Cluster Persistency Storage information, • "memevt" - MemEVT gathered data from a node, • "san_fcp" - FCP target driver related information for a node, • "ndmp" - NDMP information, • "ndu" - NDU specific information, • "name_services" - Name Services specific information, • "san_vdom" - SAN VDOM specific information for a node, • "snaplock" - SnapLock specific information for a node, • "key_manager" - Key Manager specific information, • "appdm" - Application DM, • "corefile" - Corefile to upload, • "flexcache" - FlexCache, • "nvmf" - NVMF specific information, • "snapshot" - Snapshots specific information,

			"rdma" - RDMA driver and OFED layer specific information, • "ndo" - NDO specific information, • "metroclustertcp" - MetroCluster TCP specific information for a node, • "metroclusterstats" - MetroCluster statistics for data analytics, • "object_store_server" - Object store server specific information for a node, • "storage_stats" - Storage statistics for data analytics, • "ipsec" - IPsec specific information, • "hm_switch" - Ethernet switch health monitoring information, • "arw" - Anti-ransomware specific information, • "svm_migrate" - Vserver migrate information, • "nic" - NIC driver specific information, • "splog_full" - Full SPLOG Collection from Service-Processor

Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

Element definition: **mail-address**

[top]

E-mail Address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **aod-download**

[top]

aod_download Possible values:

- "licensing" - Download licenses for a node or cluster

[none]

Element definition: **aod-download-status**

[top]

aod_download_status Possible values:

- "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server,
- "request_failed" - Download request could not be transmitted,
- "not_supported" - Download request type is not known by the AutoSupport OnDemand server,
- "transferring" - Requested data is being downloaded,
- "completed" - Download has completed successfully,
- "cancelled" - Download was cancelled,
- "failed" - Download failed to complete

[none]

Element definition: **asup-check-status**

[top]

ok|warning|failed|not-run Possible values:

- "ok" - The Status of the AutoSupport check is ok.,
- "warning" - Please verify the intended behavior.,
- "failed" - AutoSupport check failed.,
- "not_run" - AutoSupport check could not be run.

[none]

Element definition: **asup-content-type**

[top]

Type of AutoSupport content Possible values:

- "basic" - ASUP will contain minimal set of data for this subsystem,
- "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,
- "diagnostic" - ASUP will contain diagnostic data for this subsystem

[none]

Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

- "smtp" - Transmitted via SMTP,
- "http" - Transmitted via HTTP or HTTPS,
- "noteto" - (DEPRECATED) noteto destination,
- "retransmit" - Transmitted to a specified URI destination

[none]

Element definition: **asup-manifest-status**

[top]

AutoSupport manifest collection status Possible values:

- "requested" - ASUP request has been added to the queue and is waiting processing by the collector,
- "working" - ASUP Collector is actively gathering the needed data,
- "file_not_found" - ASUP collection failed, a needed file is missing,
- "no_such_table" - ASUP collection was unable to find the requested SMF table,
- "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available,
- "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available,
- "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available,
- "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available,
- "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits,
- "general_error" - ASUP collection failed, additional information if any will be in the Error String field,
- "completed" - ASUP collection is complete, ready for delivery,
- "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode,
- "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation,
- "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode,
- "content_empty" - ASUP content was collected successfully, but output was empty,
- "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field,
- "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available,
- "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit,
- "collection_incomplete" - ASUP content collection incomplete,
- "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit,
- "collection_truncated_age" - ASUP file truncated due to age and partial data is available

[none]

Element definition: **asup-status**

[top]

AutoSupport general status Possible values:

- "initializing" - ASUP request is being processed,
- "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information,
- "collection_in_progress" - The AutoSupport Collection is in progress,
- "queued" - ASUP is queued for delivery,
- "transmitting" - ASUP transmission is in progress,
- "sent_successful" - ASUP was successfully sent,
- "ignore" - ASUP was processed successfully but has no destinations configured,
- "re_queued" - ASUP transmission failed and has been re-queued,
- "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded,
- "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery,
- "cancelled" - ASUP transmission cancelled

[none]

Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
- "wafl" - WAFL specific information for a node,
- "mot" - MOT specific information for a node,
- "ha" - HA specific information for a node,
- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,

- "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,
- "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,
- "splog_rnode" - On demand collected remote SP logs,
- "hm" - Health Monitor Alerts specific information,
- "kcs" - Kernel Cluster Services information for a node,
- "av" - Antivirus specific information for a node,
- "vserver_dr" - Vserver disaster recovery,
- "nwd" - Node Watchdog specific information for a node,
- "vscan" - Vscan specific information for a node,
- "san_ffdc" - SAN specific trace dumps for a node,
- "cluster_peer" - Cluster peering specific dumps for a node,
- "crs" - Config Replication Service information,
- "cps" - Cluster Persistency Storage information,
- "memevt" - MemEVT gathered data from a node,
- "san_fcp" - FCP target driver related information for a node,
- "ndmp" - NDMP information,
- "ndu" - NDU specific information,
- "name_services" - Name Services specific information,
- "san_vdom" - SAN VDOM specific information for a node,
- "snaplock" - SnapLock specific information for a node,
- "key_manager" - Key Manager specific information,
- "appdm" - Application DM,
- "corefile" - Corefile to upload,
- "flexcache" - FlexCache,
- "nvmf" - NVMF specific information,
- "snapshot" - Snapshots specific information,
- "rdma" - RDMA driver and OFED layer specific information,
- "ndo" - NDO specific information,
- "metroclustertcp" - MetroCluster TCP specific information for a node,
- "metroclusterstats" - MetroCluster statistics for data analytics,
- "object_store_server" - Object store server specific information for a node,
- "storage_stats" - Storage statistics for data analytics,
- "ipsec" - IPsec specific information,
- "hm_switch" - Ethernet switch health monitoring information,
- "arw" - Anti-ransomware specific information,
- "svm_migrate" - Vserver migrate information,
- "nic" - NIC driver specific information,
- "splog_full" - Full SPLOG Collection from Service-Processor

[none]

Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" - (DEPRECATED),
- "https"

[none]

Element definition: **autosupport-cmd-tgt**

[top]

Execution domain of AutoSupport content Possible values:

- "bsd" - Command executed by BSD,
- "smf_table" - Command selects SMF table,
- "file" - Command indicates file to collect,
- "dblade" - Collect from dbladecli,
- "dblade_file" - Collect a file from dblade. Could be partner file,
- "zapi_xml" - Response in XML format,
- "custom_fx" - Collect custom function output file

[none]

Element definition: **autosupport-config-info**

[top]

AutoSupport configuration data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
from		mail-address optional	The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable
is-enabled		boolean optional	Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable
is-local-collection-enabled		boolean optional	Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable
is-nht-data-enabled		boolean optional	Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable
is-node-in-subject		boolean optional	Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable
is-ondemand-download-enabled		boolean optional	Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-enabled		boolean optional	Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable
is-ondemand-		boolean	Specifies whether the AutoSupport OnDemand Remote

remote-diag-enabled		optional	Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable
is-perf-data-enabled		boolean optional	Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable
is-private-data-removed		boolean optional	Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable
is-reminder-enabled		boolean optional	Specifies whether to enable / disable AutoSupport reminders. Attributes: non-creatable, modifiable
is-support-enabled		boolean optional	Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable
is-throttle-enabled		boolean optional	Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable
last-subject		string optional	The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable
last-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable
mail-hosts		string[] optional	The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable
max-download-rate	**[0..2^63-1]**	integer optional	Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable
max-http-size	**[0..2^63-1]**	integer optional	Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-smtp-size	**[0..2^63-1]**	integer optional	Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable
max-upload-rate	**[0..2^63-1]**	integer optional	Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable
minimum-private-data-length	**[2..1024]**	integer optional	Minimum Length for Sensitive Data Attributes: non-creatable, modifiable
node-name		string optional	The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable
node-specific-from		boolean optional	Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable
noteto		mail-address[] optional	(DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable
ondemand-	**[0..2^32-**	integer	The AutoSupport OnDemand Client polling rate in minutes. As of

polling-interval	**1]**	optional	Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable
ondemand-server-url		string optional	The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable
partner-address		mail-address[] optional	Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
payload-format		compression-format optional	The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values: • "7z" - 7-Zip Archive, • "tgz" - Zipped Tarball
periodic-tx-window		string optional	The transmission window (seconds). Attributes: non-creatable, modifiable
post-url		string optional	The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable
proxy-url		string optional	Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable
put-url		string optional	The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable
retry-count	**[0..2^32-1]**	integer optional	The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable
retry-interval		string optional	The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable
support-address		mail-address[] optional	The e-mail address of Support. Attributes: non-creatable, modifiable
to		mail-address[] optional	Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable
transport		asup-transport optional	The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values: • "smtp" , • "http" - (DEPRECATED), • "https"
validate-digital-certificate		boolean optional	Validate Digital Certificate Received Attributes: non-creatable, modifiable

Element definition: **byte-rate**

[top]

Bytes per second Range : [0..2^63-1].

[none]

Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

Element definition: **mail-address**

[top]

E-mail Address

[none]

Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" - (DEPRECATED),
- "https"

[none]

APIs in Category: **cf**

cf-aggregate-giveback-status
cf-force-takeover
cf-get-iter
cf-get-partner
cf-giveback
cf-hwassist-stats
cf-hwassist-stats-clear
cf-hwassist-status
cf-hwassist-test
cf-mode-set
cf-modify-iter
cf-negotiated-failover-disable
cf-negotiated-failover-enable
cf-negotiated-failover-status
cf-service-disable
cf-service-enable
cf-status
cf-takeover
cf-takeover-status

cf-aggregate-giveback-status

[top]

Returns giveback status of all the aggregates in the cluster which are taken over or were given back.

Input Name	Range	Type	Description
desired-attributes		cf-aggregate-giveback-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..100]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cf-aggregate-giveback-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cf-aggregate-giveback-info[]	The list of attributes of cf objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more cf objects to return.
num-records	**[0..100]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cf-force-takeover

[top]

Forces one filer to take over its partner even though the filer detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the filers causes the filers' NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the filer to take over its partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead.

Input Name	Range	Type	Description
disaster		boolean optional	When set to true, forces a filer to take over its partner in all cases where a force-takeover would. In addition it will force a takeover even if some partner mailbox disks are inaccessible. It can only be used when remotesyncmirror is licensed. This option is very dangerous. Not only can it cause data corruption, if not used carefully, it can also lead to a situation where both the filer and it's partner are operational (split brain). As such, it should only be used as a means of last resort when the takeover and force-takeover operations are unsuccessful in achieving a takeover. The operator must ensure that the partner filer does not become operational at any time while a filer is in a takeover mode initiated by the use of this operation. In conjunction with RAID mirroring, it can allow recovery from a disaster when the two filers are setup in a MetroCluster configuration.
node		string	This parameter is the name of the node which is doing a takeover of its partner.

Errno	Description
ETAKEOVERINPROGRESS	
ESENDHOMEINPROGRESS	
EVERSIONMISMATCH	
EMBOXDEGRADED	
EBADOPTIONS	
EWAITINGFORPARTNER	
ENOTHALTED	
ENODENOTFOUND	
EINTERNALERROR	

cf-get-iter

[top]

Iterate over a list of cf objects.

Input Name	Range	Type	Description
desired-attributes		storage-failover-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-failover-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-failover-info[] optional	The list of attributes of cf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cf objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cf-get-partner

[top]

Get the host name of the partner. If the name is unknown, It will return partner-unknown.

Input Name	Range	Type	Description
node		string	The node name is passed as an argument

Output Name	Range	Type	Description
partner		string	Host name of the partner or partner-unknown, if the host name is not known.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

cf-giveback

[top]

Initiates a giveback of partner resources. Once the giveback is complete, the automatic takeover capability is disabled until the partner is rebooted. A giveback fails if outstanding CIFS sessions, active system dump processes, or other filer operations makes a giveback dangerous or disruptive.

Input Name	Range	Type	Description
force		boolean optional	When set to true, this allows a giveback to proceed even if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive as long as it would not result in data corruption or filer error. When set to false, this does not allow a giveback to proceed if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive. The default value is false.
node		string	This parameter is the name of the node which performs giveback to its partner.
only-cfo-aggregates		boolean optional	When set to true, only the CFO HA-style aggregates (which includes the root aggregate) will be given back. This may be needed in the case when the partner node's VLDB and other such management applications are not properly working (they are required to be online for the SFO HA-style aggregates to start serving data), so it might not be possible to giveback SFO HA-style aggregates. When set to false, all the aggregates (CFO HA-style aggregates + SFO HA-style aggregates) will be given back. The default value is false.
override-vetoes		boolean optional	Some conditions cause attempts to giveback aggregates to be vetoed. When set to true, this allows the process of giveback of the aggregates to be initiated even in the face of such vetoes. When set to false, this does not allow the process of giveback of the aggregates to proceed if there are any vetoes. The default value is false.
require-partner-waiting		boolean optional	When set to true, this ensures that the process of giveback of the aggregates is not initiated if the partner is not up and waiting to receive them. When set to false, this allows the process of giveback of the aggregates to proceed even if the partner is not up and waiting to receive them. The default value is true.

Errno	Description
EPARTNERNOTWAITING	
ENOAGGRS	
ESENDHOMEINPROGRESS	
ETAKEOVERINPROGRESS	
EHALTING	
ENOPARTNERINVENTORY	
EPARTNERMISSINGDISKS	
ENODENOTFOUND	
EINTERNALERROR	
EPARTNERTRYINGTAKEOVER	
E_ARL_IN_PROGRESS	

cf-hwassist-stats

[top]

Get useful information about statistics of hardware assisted takeover functionality.

Input Name	Range	Type	Description

Input Name	Range	Type	Description
node		string	Node name of the filer for which the API is requested.

Output Name	Range	Type	Description
hwassist-stats-abnormal-reboot		string optional	Number of abnormal_reboot alerts received
hwassist-stats-bad-nvram-id		string optional	Number of bad NVRAM id alerts received
hwassist-stats-dimm-uecc-error		string optional	Number of dimm_uecc_error alerts received
hwassist-stats-keep-alive		string optional	Number of keep_alive alerts received
hwassist-stats-loss-of-heartbeat		string optional	Number of loss_of_heartbeat alerts received
hwassist-stats-post-error		string optional	Number of post_error alerts received
hwassist-stats-power-cycle-via-rlm		string optional	Number of power_cycle_via_rlm alerts received
hwassist-stats-power-cycle-via-sp		string optional	Number of power_cycle_via_sp alerts received
hwassist-stats-power-loss		string optional	Number of power_loss alerts received
hwassist-stats-power-off-via-rlm		string optional	Number of power_off_via_rlm alerts received
hwassist-stats-power-off-via-sp		string optional	Number of power off alerts received from service processor (power_off_via_sp alert).
hwassist-stats-reset-via-rlm		string optional	Number of reset_via_rlm alerts received
hwassist-stats-reset-via-sp		string optional	Number of reset_via_sp alerts received
hwassist-stats-ss-mismatch		string optional	Number of shared secret key mismatch alerts received
hwassist-stats-test		string optional	Number of test alerts received
hwassist-stats-times-throttled		string optional	Number of times hardware assist alerts were throttled. Alerts are throttled when too many are received in a short interval.
hwassist-stats-unknown-alerts		string optional	Number of unknown alerts received
hwassist-stats-watchdog-reset		string optional	Number of l2_watchdog_reset alerts received
no-stats		string optional	If no hardware assist statistics are available, this is set to "Cannot determine hwassist stats".

Errno	Description
EINTERNALERROR	

cf-hwassist-stats-clear

[top]

Get useful information about stats of hw_assist functionality.

Input Name	Range	Type	Description

node		string	Node name of the filer for which the API is requested.

Errno	Description
EINTERNALERROR	

cf-hwassist-status

[top]

Get useful information about the status of hw_assist functionality.

Input Name	Range	Type	Description
node		string	Node name of the filer for which the API is requested.

Output Name	Range	Type	Description
keep-alive-status		string optional	Possible values are: • healthy • missed_keep_alive_alerts
local-hwassist-inactive-corrective-action		string optional	Indicates the corrective action if status is inactive.
local-hwassist-inactive-reason		string optional	Indicates the reason if status is inactive.
local-hwassist-ipaddr		string optional	If set, Ip address; 0.0.0.0 otherwise
local-hwassist-port		integer optional	If set, port; 0 otherwise
local-hwassist-status		string optional	Local node hw_assist status Possible values are: • active: If functionality is active. • inactive: If functionality is inactive
no-status		string optional	Set if no hw_assist status is avaliable. Either this or the remaining fields will be set,hence they are optional.
partner-hwassist-inactive-corrective-action		string optional	Indicates the corrective action if status is inactive.
partner-hwassist-inactive-reason		string optional	Indicates the reason if status is inactive.
partner-hwassist-ipaddr		string optional	If set, Ip address, 0.0.0.0 otherwise
partner-hwassist-port		integer optional	If set, current port, 0 otherwise
partner-hwassist-status		string optional	partner node hw_assist status Possible values are: • active: If functionality is active. • inactive: If functionality is inactive

Errno	Description
EINTERNALERROR	

cf-hwassist-test

[top]

Validates the hardware-assisted takeover configuration. functionality.

Input Name	Range	Type	Description
node		string	Node name of the filer for which the API is requested.

Output Name	Range	Type	Description
hwassist-test-result		string	This string corresponds to the result of the test. The possible outcomes are: Hwassist is not initialized No hw_assist hardware found. Partner is throttling alerts. Resource busy. Try again after some time. Hwassist hardware returned error. No response from partner. Timed out. Unexpected abort. Partner has taken over. Interconnect is down between nodes. Make sure partner is booted up.Run 'storage failover hwassist show' for details.

Errno	Description
EINTERNALERROR	

cf-mode-set

[top]

Enable or disable the high-availability (HA) for this node. A reboot of the node is required for the HA mode to become effective.

Input Name	Range	Type	Description
mode		string	HA mode. Possible values: • 'ha' - Enable high-availability(HA). After HA is enabled, giveback and and takeover are available. • 'non_ha' - Disable high-availability(HA). After HA is disabled, the giveback and takeover are not available. Note that changing the mode to non_ha requires disabling the takeover facility by calling cf-service-disable.
node		node-name	Node name

Errno	Description
ESERVICEENABLED	
EINTAKEOVER	
EINTERNALERROR	

cf-modify-iter

[top]

Modify the attributes of cf or a group of cf objects.

Input Name	Range	Type	Description
attributes		options-related-info-modify	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple cf objects match a given query. If set to true, the API will continue modifying the next matching cf even when modification of a previous cf fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching cf even when the modification of a previous matching cf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		options-related-info-modify	If modifying a specific cf, this input element must specify all keys. If modifying cf objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of cf objects (just keys) that were not modified due to some error. If set to false, the list of cf objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of cf objects (just keys) that were successfully updated. If set to false, the list of cf objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		cf-modify-iter-info[] optional	Information about cf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching cf objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of cf objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of cf objects that matched the query and were successfully updated.
success-list		cf-modify-iter-info[] optional	The cf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description

Errno	Description
EINTERNALERROR	

cf-negotiated-failover-disable

[top]

Disables negotiated failover. disk_shelf is the negotiated failover module currently supported.

Input Name	Range	Type	Description
module		string	Module currently supported is 'disk_shelf'.

Errno	Description
EINTERNALERROR	

cf-negotiated-failover-enable

[top]

Enables negotiated failover. disk_shelf is the negotiated failover module currently supported.

Input Name	Range	Type	Description
module		string	Module currently supported is 'disk_shelf'.

Errno	Description
EINTERNALERROR	

cf-negotiated-failover-status

[top]

Returns the status of the negotiated failover module. Negotiated failover is a general facility which supports negotiated failover on the basis of decisions made by various modules.

Input Name	Range	Type	Description
module		string	Module currently supported is 'disk_shelf'

Output Name	Range	Type	Description
is-enabled		boolean	True, if storage failover for this module is enabled, false otherwise.

Errno	Description
EINTERNALERROR	

cf-service-disable

[top]

Disables the takeover capability of this filer in the cluster.

Input Name	Range	Type	Description
node		string	This parameter is the name of the node on which service is to be disabled

Errno	Description
ESERVICENOTINITIALIZED	
ESERVICENOTLICENSED	
ESERVICENOTENABLED	
EREVERTINPROGRESS	
EINTERNALERROR	

cf-service-enable

[top]

Enables the takeover capability of this filer in the cluster. This spawns a process to enable the service

Input Name	Range	Type	Description
node		string	This parameter is the name of the node on which service is to be enabled

Errno	Description
ESERVICENOTINITIALIZED	
ESERVICEENABLED	
EREVERTINPROGRESS	
EMBOXUNKNOWN	
EINTERNALERROR	

cf-status

[top]

Get useful information about the status of the high availability service. If the monitor is not initialized, this returns an error.

Input Name	Range	Type	Description
node		string	This parameter is the name of the node for which High Availability service status is being requested

Output Name	Range	Type	Description
backup-io-times		mailbox-io-times-info optional	Backup mailbox IO times. Not returned if state is "waiting_for_root_aggr".
backup-mailbox-status		mailbox-status-info[] optional	Backup mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr".
booting-received		integer	time booting notification received, in milliseconds.
control-partner-		boolean	True, if we control one or more partner aggregates.

aggregates			
current-giveback-module		string optional	The current module giveback process is in
current-mode		string optional	Current HA mode
current-resource-table-entry		string optional	If we're doing takeover processing, the name of the current entry in the resource table.
current-resource-table-entry-index		integer optional	If we're doing takeover processing, the index of the current entry in the resource table.
current-takeover-module		string optional	The current module takeover process is in. e.g. WAFL
current-time		integer	Current time on the filer
fanta-reloc-aggr-count		integer optional	Number of partner homed aggregates owned by local node.
firmware-received		integer	time firmware notification received, in milliseconds.
giveback-failure-reason		string optional	If a giveback failed this is the reason for the giveback failure. Possible values are: • aggr_relocation_in_progress - aggregate relocation is in progress • shutdown_in_progress - shutdown is in progress • testpoint - a giveback failure was simulated with a testpoint • cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems • bck_mbx_update_error - node could not update its backup mailbox • disaster_recovery_in_progress - disaster recovery operation is in progress • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node
			Giveback state of the node. Possible values are: • nothing_to_gb - No partner aggregates owned by local node • not_attempted_yet - Local node owns partner aggregates and a giveback has not been attempted yet • giveback_in_progress - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in. • giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_vetoed_no_di - Normal giveback not possible as

giveback-state		string optional	disk inventory from partner has not yet been received • giveback_vetoed_missing_disks - Normal giveback not possible as the partner is missing some of its files system disks • autogiveback_scheduled - An auto giveback is scheduled Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • autogiveback_deferred - Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates. • node_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process • sfo_aggr_giveback_failed - Giveback of SFO aggregates failed. Call cf-aggregate-giveback-status API for more information regarding giveback failure. • sfo_aggr_giveback_in_progress - Giveback of SFO aggregates is in progress. Call cf-aggregate-giveback-status API for more information regarding giveback status. • partial_giveback - Local node owns partner SFO aggregates • partner_spare_disks_giveback_pending - Local node owns partner's spare disks
ha-type		string optional	HA type Possible values are: • none - None • shared_storage - Shared storage HA configuration • non_shared_storage - Non-shared storage HA configuration ***** typedefs *****
interconnect-links		string optional	States of the individual interconnect links e.g. VIA Interconnect is down (link 0 down, link 1 down) VIA Interconnect is up (link 0 down, link 1 up) VIA Interconnect is up (link 0 up, link 1 down)
interconnect-type		string optional	Type and Vendor of the interconnect e.g. Infiniband (Mellanox Sinai) FCVI (Qlogic 2462)
is-enabled		boolean	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reason.
is-interconnect-up		boolean	True, if high availability interconnect is up
kill-packets		boolean	True, if we issue ic kill messages during takeover.
local-firmware-progress		integer optional	A counter to indicate that the local node is progressing in the current firmware state The range of possible values is [0..2^31-1]
			Local firmware state that will be communicated through interconnect to the partner • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting

local-firmware-state		string optional	• SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for HA mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps
local-in-headswap		boolean optional	True, if the local node is being replaced by a new node.
local-mailbox-disks		sf-disk-info[] optional	List of local mailbox disks. Not returned if state is "waiting_for_root_aggr".
local-missing-disks		sf-disk-info[] optional	List of disks that the local node is missing but the partner node is able to view.
logs-unsynced-count		integer	Number of times the log was unsynchronized.
max-resource-table-index		integer optional	The maximum resource table index.
mode		string optional	High-availability (HA) mode for this node Possible values: • 'ha' - High-availability is enabled. • 'non_ha' - High-availability is disabled.
name		string	Hostname of the dblade.
new-partner-sysid	**[0..2^32-1]**	integer optional	The new partner system ID recieved via HA interconnect. The value is zero if partner is not in headswap.
			State of the storage failover of the node. Possible values are: • connected - Partner is available for takeover • takeover_scheduled - Partner is down and takeover is scheduled • takeover_started - Takeover process has begun • takeover - Currently controlling partner's resources. • takeover_failed - Failed to takeover the partner • giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. • giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. • waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned. • waiting - Waiting for a connection to partner. Generally happens while partner is rebooting.

node-state		string optional	• in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not). • pending_shutdown - starting a takeover/giveback is inhibited due to a pending system shutdown. • relocating_aggrs_before_takeover - node is relocating its SFO aggregates to its partner prior to a negotiated takeover. • sfo_takeover_phase_done - Node is done with the SFO phase of takeover. • sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. • sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason. • sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. • in_non_HA_mode - Node is not in HA mode • cfo_takeover_failed - CFO phase of takeover failed • sfo_takeover_phase - SFO phase of takeover of partner is in progress • relocated_aggrs_before_takeover - node has relocated its SFO aggregates to its partner prior to a negotiated takeover. • giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in. • giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated. • previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed. • takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received. • takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks. • takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • takeover_network_failure - Local node in takeover. The partner was taken over due to network failure. • takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates. • automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when

			raid.panic.missing.disks is turned on from node CLI. • automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI. • ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process. • own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade. • own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade. • clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online. • clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online. • dr_op_in_progress - MetroCluster disaster recovery operation is in progress. • error - There is an error with the system User have to compare the return values case-insensitively.
nvram-id	**[0..2^32-1]**	integer	NVRAM identifier
partner		string	Hostname of the partner. If the partner is unknown, returns an empty string.
partner-firmware-progress		integer optional	A counter to indicate that the partner node is progressing in the current firmware state The range of possible values is [0..2^31-1]
partner-firmware-state		string optional	Partner firmware state as communicated by the partner through interconnect • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for HA mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover

			• SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps
partner-in-headswap		boolean optional	True, if partner node is being replaced by a new node.
partner-mailbox-disks		sf-disk-info[] optional	List of partner mailbox disks as this dblade sees them. Not returned if state is "waiting_for_root_aggr".
partner-missing-disks		sf-disk-info[] optional	List of disks that the partner node is missing but the local node is able to view.
partner-name		string optional	Hostname of the partner. Not returned if unknown.
partner-nvram-id	**[0..2^32-1]**	integer optional	Partner NVRAM identifier. Not returned if unknown.
primary-io-times		mailbox-io-times-info optional	Primary mailbox IO times. Not returned if state is "waiting_for_root_aggr".
primary-mailbox-status		mailbox-status-info[] optional	Primary mailbox statusPrimary mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr".
resource-table		resource-table-info[] optional	The failover monitor resource table.Pre-rsrctbl information will be prep-ended to this output.
sf-options		sf-options-info optional	Options for debugging purpose. The actual interface is via the options mechanism. Not returned if state is "waiting_for_root_aggr".
state		string optional	connected - Partner is available for takeover takeover_scheduled - Partner is down and takeover is scheduled takeover_started - Takeover process has begun takeover - Currently controlling partner's resources. taken over - Partner is controlling filer's resources takeover_failed - Failed to takeover the partner sfo_takeover_phase - This node has asked its partner to relocate its SFO aggregates in preparation for takeover. This occurs when a user has initiated an optimized negotiated takeover. relocating_aggrs_before_takeover - This node is relocating its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_done - This node is done with the SFO phase of an optimized negotiated takeover. sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_aborted - The SFO phase of takeover is aborted on this node during an optimized negotiated takeover of its partner. sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. giving_back - Sendhome process in progress giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not

			returned. waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not). pending_shutdown - starting a takeover/sendhome is inhibited due to a pending system shutdown. error - There is an error with the system User have to compare the return values case-insensitively.
takeover-by-partner-not-possible-reason		takeover-info[] optional	If takeover by the partner is not possible, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed.
takeover-by-partner-possible		boolean optional	True, if storage failover takeover is currently possible by the partner, false otherwise. Note that this is the local node's view of partner.
takeover-failure-reason		string optional	If state equals "takeover_failed", this is the reason for the takeover failure. Possible values are: • shutdown_in_progress - shutdown is in progress • aggr_relocation_in_progress - aggregate relocation is in progress • giveback_in_progress - giveback is in progress • takeover_in_progress - takeover is in progress • unknown_partner_id - node could not detect its partner's system ID • conflicting_sysid - node has the same system ID as its partner • pri_mbx_update_error - node could not update its primary mailbox • takeover_disabled_by_partner - partner has disabled takeover • cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems • non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot • bck_mbx_update_error - node could not update its backup mailbox • partner_taking_over - partner is taking over local node • revert_in_progress - revert is in progress • disaster_recovery_in_progress - disaster recovery operation is in progress • headswap_in_progress - headswap is in progress • destination_check_failed - destination check failed • communication_failed - communication with destination failed • operation_aborted - operation was aborted • aggr_not_online - destination node did not online the aggregate being relocated in time • sfo_disabled - storage failover service is not enabled • partner_taking_over - partner is taking over local node • bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node • bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node • partner_shutting_down - shutdown is in progress on the partner node • partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node • partner_giveback_in_progress - giveback is in progress on the partner node • partner_revert_in_progress - revert is in progress on the

			partner node • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node • partner_in_headswap - headswap is in progress on the partner node
takeover-of-partner-not-possible-reason		takeover-info[] optional	If is-enabled is false, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed.
takeover-possible		boolean	True, if storage failover takeover is currently possible, false otherwise.
takeover-reason		string optional	Reason for triggering a takeover of partner.
takeover-state		string optional	Takeover state of the node. Possible values are: • takeover_failed - Takeover Failed • sfo_takeover_in_progress - SFO phase of takeover of partner is in progress • relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner • cfo_takeover_scheduled - CFO phase of takeover is scheduled • relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner • takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure. • in_takeover - Node is in takeover • takeover_started - A takeover is in progress • takeover_scheduled - A takeover of partner is scheduled. Refer to time-until-takeover field to check time remaining till takeover. • not_in_takeover - Local node is not in takeover
time-since-takeover		integer optional	Time in milliseconds since the local node has taken over partner.
time-until-auto-giveback		integer optional	If state == takeover this is the countdown time in seconds until auto-giveback is started. The range of possible values is [0..2^31-1]. This attribute will be absent on output when the value is 0.
time-until-takeover		integer optional	if state == takeover_scheduled, this is the countdown time in seconds until state == takeover_started.
timeouts		timeout-info	Various failover monitor timeouts.
transit-event-time		integer	Time at which last takeover/giveback event occurred, in milliseconds.

Errno	Description
ENODENOTFOUND	

Vfiler-enabled
Yes

cf-takeover

[top]

Initiates a takeover of the storage partner. Takeover is done asynchronously; status may be monitored by calling the cf-status API and examining the state field. If automatic giveback is enabled then control will be returned to storage partner once it boots up.

Input Name	Range	Type	Description
allow-disk-inventory-mismatch		boolean optional	This allows takeover if disk inventory information is mismatched for non root volume disks. If mismatched, local node performance could degrade as what appears to be missing disks are rebuilt. NOTE:: When using this option and if some of partner's file system disks are not visible to local node, then after giveback those missing disks can create new failed aggregate with same name. So, if any aggregate is offline after giveback with same name then using "zapi_aggr_destroy", you have to destroy that offline aggregate.
bypass-optimization		boolean optional	The bypass-optimization option determines whether or not an optimized negotiated takeover is run. Optimized negotiated takeover refers to the serial relocation of SFO aggregates to the taking over node, prior to a negotiated takeover. This is an optimization because it reduces per-aggregate client outage times. If the bypass-optimization option is set to true, then the takeover optimization is bypassed, and the normal takeover code path is executed. The default value for this option is false.
force		boolean optional	It forces a node to take over its storage partner even though the node detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the nodes(ha pair) causes the nodes NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the node to take over its storage partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead.
halt		boolean optional	This parameter specifies whether the node being taken over should be halted. If the value is true, then the node being taken over is halted. If the value is false, then the node being taken over is shutdown and might be rebooted if AUTOBOOT is set to true. This parameter defaults to false.
ignore-quorum-warnings		boolean optional	This option ignores errors that would be returned due to a takeover of the epsilon node or causing an out of quorum. The default value is `false` and thuse the default behavior is to fail on quorum-warnings.
immediate		boolean optional	This causes takeover to be initiated immediately. The taken over node, if up, does not get to shut things down in an orderly manner so the takeover of the resources takes longer.
node		string	This parameter is the name of the node which is doing a takeover of its partner.
override-vetoes		boolean optional	The override-vetoes option ignores any vetoes occuring as part of a negotiated takeover and allows the takeover operation to continue. The default value is `false` which means the operation fails by default if a veto is encountered.
skip-lif-migration		boolean optional	This option results in migration of LIFs to be skipped prior to a takeover. However if LIFs on this node are configured for failover, those LIFs may still failover after the reboot has occurred. The default value is `false` and hence the default behavior is to synchronously migrate data and cluster management LIFs away from the node prior to its takeover.
version-mismatch-ok		boolean optional	This allows takeover if the partner was running an incompatible operating system version and was cleanly halted. This option is used for non-disruptive upgrade(NDU).

Errno	Description
ETAKEOVERINPROGRESS	
ESENDHOMEINPROGRESS	

EVERSIONMISMATCH	
EMBOXDEGRADED	
EBADOPTIONS	
EWAITINGFORPARTNER	
ENOTHALTED	
ENODENOTFOUND	
EINTERNALERROR	
EINVENTORYMISMATCH	
ENOPARTNERINVENTORY	
EPARTNERTRYINGTAKEOVER	
E_NODE_NOT_SF_UP	
EARL_ABORT_FAILED	
ECIFSACTIVEONPARTNER	
E_RESET_DEFAULT_IMAGE_TO_TAKEOVER	

cf-takeover-status

[top]

Get the takeover status of a node and the takeover status of all its partner aggregates, for all nodes in a cluster.

Input Name	Range	Type	Description
desired-attributes		takeover-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..100]**	integer optional	The maximum number of records to return in this call. Default: 20
query		takeover-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		takeover-status[] optional	The list of attributes of aggr objects.
next-tag		string optional	Tag for the next call. Not present when there are no more aggr objects to return.
num-records	**[0..100]**	integer	The number of records returned in this call.

Errno	Description
ESERVICENOTINITIALIZED	
EAGGR_MIGRATE_CORE	
ENOT_SFO_HA_POLICY	
EAGGR_FAILED_LIMBO	
EAGGR_MIGRATE_OFFLINE_FAILED	
EAGGR_MIGRATE_VETO	

EAGGR_MIGRATE_HA_MSG_ERR	
EAGGR_MIGRATE_ONLINE_TIMEOUT	
EAGGR_MIGRATE_ONLINE_FAILED	
E_NETRA_CHK_FAILED	
E_AGGR_MIGRATE_ABORTED	
E_TKOVR_ABORT_CHK_FAILED	
EAGGR_MIGRATE_PRECOMMIT_FAILED	
EAGGR_MIGRATE_RESTRICTED	
EAGGR_MIGRATE_OFFLINE	
EAGGR_MIGRATE_FOREIGN	
ENOT_BOTH_PLEX_ONLINE	
E_BDFU_FAILED_AGGR_MIGRATION_SOURCE	
E_BDFU_FAILED_AGGR_MIGRATION_DEST	
ENODISKSFOUND	

Element definition: **cf-aggregate-giveback-info**

[top]

Giveback status of an aggregate When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-giveback-error		string optional	Failure reason, incase giveback of this aggregate failed. Possible values include: • "sfo_am_shutdown" - Node is being shutdown • "sfo_am_not_homed_partner" - Aggregate not owned by partner • "sfo_am_not_sfo" - Aggregate does not have SFO policy • "sfo_am_failed_limbo" - Aggregate in failed or limbo state • "sfo_am_offline_failed" - Aggregate could not be offlined during giveback • "sfo_am_migrating" - Aggregate is being migrated • "sfo_am_veto" - Giveback was vetoed. • "sfo_am_communication_err" - Giveback failed because node cannot communicate with the partner • "sfo_am_online_timeout" - Aggregate did not come online after giveback • "sfo_am_online_failed" - Failed to online the aggregate after giveback • "sfo_am_hdd_to_aff_dest" - Migration of a non-SSD aggregate to an All-Flash Optimized destination is not allowed Attributes: non-creatable, non-modifiable
aggr-giveback-module		string optional	If giveback is in progress, then this is set to the module which is currently running. If giveback was failed or vetoed by a certain module then this is set to the first module which failed the giveback. Example: WAFL. Attributes: non-creatable, non-modifiable

aggr-giveback-state		string optional	Giveback status of the aggregate Possible values include: • "sfo_am_done" - Giveback done • "sfo_am_failed" - Giveback failed • "sfo_am_inprog" - Giveback in progress • "sfo_am_not_started" - Giveback not started • "sfo_am_nothing_to_gb" - No aggregates to giveback • "sfo_disk_inventory_not_exchanged" - Auto giveback failed because disk inventory was not exchanged between HA partners • "sfo_disk_inventory_mismatch" - Auto giveback failed because there was mismatch in disk inventory • "sfo_am_failed_bdfu_source" - Giveback failed as failed to disable background disk firmware update on source node. • "sfo_am_failed_bdfu_dest" - Giveback failed as failed to disable background disk firmware update on destination node. • "sfo_am_delayed_bdfu_source" - Giveback delayed as disk firmware update is in progress on source node. • "sfo_am_delayed_bdfu_dest" - Giveback delayed as disk firmware update is in progress on destination node. • "sfo_am_running_checks" - Performing veto checks. Attributes: non-creatable, non-modifiable
aggregate		string optional	Aggregate name Attributes: non-creatable, non-modifiable
destination-node		string optional	Node to which the aggregate is being given back Attributes: non-creatable, non-modifiable
node		node-name optional	Node performing the giveback of aggregate Attributes: key, non-creatable, non-modifiable

Element definition: **cf-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against cf object.

Name	Range	Type	Description
cf-key		options-related-info-modify	The keys for the cf object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **mailbox-io-times-info**

[top]

Mailbox IO times

Name	Range	Type	Description
normal		integer	Maximum IO time in milliseconds, normal
transition		integer	Maximum IO time in milliseconds, transition

Element definition: **mailbox-status-info**

[top]

Mailbox status info.

Name	Range	Type	Description
mailbox-status		string	representation of mailbox status bit. Possible values: mbx_status_nodisks mbx_status_uncertain mbx_status_stale mbx_status_conflicted mbx_status_old_version mbx_status_not_found mbx_status_wrong_state mbx_status_backup

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **options-related-info-modify**

[top]

Storage Failover Options to Modify

Name	Range	Type	Description
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
failover-enabled		boolean optional	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable
ha-mode		hamode optional	Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values: • "ha" , • "non_ha"
node		node-name optional	Node name Attributes: key, non-creatable, non-modifiable
sfo-advanced-options-info-modify		advanced-options-modify optional	Advanced Options to Modify
sfo-giveback-options-info-modify		giveback-options-modify optional	Giveback Options to Modify
sfo-takeover-		takeover-options-	Takeover Options to Modify

options-info-modify		modify optional	

Element definition: **resource-table-info**

[top]

A failover monitor resource table entry.

Name	Range	Type	Description
fail		string	Entry failure code, represented as a string: ok fail fail_always hang panic veto
name		string	Name of the entry
state		string	Entry state, represented as a string: up start_running start_done start_failed stop_running stop_failed takeover_barrier only_when_initd
time-delta		integer optional	Amount of time spent in this element, in milliseconds.

Element definition: **sf-disk-info**

[top]

Disk information.

Name	Range	Type	Description
disk-cluster-name		string optional	A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'. Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
disk-uid		string	Disk unique identifier. Maximum length of 90 characters. XXX should use same typedef as storage ZAPI. Note sure where it is defined.
name		string optional	Name of the disk, e.g. v1.1
physical-location		integer optional	Name of the location where the disk is physically present. This can be local, partner or mediator.

Element definition: **sf-options-info**

[top]

Options for debugging purpose.

Name	Range	Type	Description
aggregate-migration-timeout		integer optional	Number of seconds the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. The default setting is 40 seconds.
bypass-takeover-		boolean	If true, then optimized negotiated takeover is bypassed. If false, negotiated takeover will be optimized. The default value for this

optimization		optional	option is false. This option will be available starting with Data ONTAP 8.2.
giveback-auto		boolean	Indicates if the automatic giveback is enabled. Same as send-home-auto.
hwassist-enable		boolean	Indicate if hardware assist takeover is enabled.
hwassist-health-check-interval		integer	Hardware assist h/w sends a heartbeat every '-health-check-interval' seconds.
hwassist-partner-ip		string	Hardware assist Ip address of the partner.
hwassist-partner-port		integer	Port number on which hwassist receives alerts.
hwassist-retry-count		integer	Number of times we repeat sending an alert.
mode		string optional	HA mode in registry
node-status-in-mailbox-disks		boolean	Indicates if we propagate node status via mailbox disks.
node-status-in-mailbox-disks-read-interval		integer	Rate in seconds at which we read node status from mailbox disks.
node-status-in-mailbox-disks-write-interval		integer	Rate in seconds at which we write node status to mailbox disks.
send-home-auto		boolean	Indicates if the automatic send-home facility enabled.
send-home-auto-attempts		integer	The number of times we'll try to do an automatic giveback within send-home-auto-minutes
send-home-auto-attempts-minutes		integer	The number of minutes in which we should not exeeced send-home-auto-attempts automatic send-home attempts.
send-home-auto-delay-seconds		integer	The number of seconds of delay before initiating automatic send-home. This will be the minimum time a node will be in takeover state before performing auto sendhome.
send-home-check-partner-waiting		boolean	Indicates if we require the partner to be waiting for a send-home in order to do a send-home.
takeover-detection-time		integer	Takeover detection time in seconds.
takeover-on-failure		boolean	Indicates if we will automatically takeover upon partner failure.
takeover-on-panic		boolean	Indicates if we will automatically takeover upon partner panic.
takeover-on-reboot		boolean	Indicates if we will automatically takeover upon partner reboot.
takeover-on-short-uptime		boolean	Indicates if we will automatically takeover if the partner fails within 60 seconds of booting.

Element definition: **storage-failover-info**

[top]

Storage Failover Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
sfo-giveback-info		giveback-related-info optional	Giveback related Info
sfo-interconnect-info		interconnect-related-info optional	Interconnect Info
sfo-node-info		node-related-info optional	Node Info
sfo-options-info		options-related-info optional	Options Info
sfo-storage-info		storage-related-info optional	Storage Info
sfo-takeover-info		takeover-related-info optional	Takeover related Info

Element definition: **takeover-info**

[top]

Takeover info.

Name	Range	Type	Description
reason		string	reason we can't takeover: • not_initialized - Controller Failover not initialized • non_ha_mode - Controller is in non-HA mode • disabled - Controller Failover takeover disabled • mailbox_invalid - Partner mailbox disks not accessible or invalid • mailbox_uninit - Partner mailbox status uninitialized • fm_version_mismatch - Failover monitor version mismatch • partner_disabled - Takeover disabled by partner • operator_deny - Takeover disabled by operator • nvram_mismatch - NVRAM size mismatch • version - Version mismatch • ic_error - Interconnect error • booting - Partner booting • shelf_hot - Disk shelf is too hot • partner_revert_in_progress - Partner is performing revert • local_revert_in_progress - Revert is in progress • partner_takeover - Partner is attempting takeover • local_takeover - Already in takeover mode • halt_no_takeover - Partner halted in notakeover mode • log_unsync - NVRAM log unsynchronized • unknown - No takeover due to unknown reason • waiting_for_partner - Waiting for partner to recover • low_memory - Low memory condition • halting - Local halt in progress • mailbox_uncertain - Status of partner mailbox is uncertain • no_auto_takeover - Automatic takeover is disabled • disk_inventory_not_exchanged - Disk inventory information not received

			from partner • disk_inventory_mismatch_local - Local node missing some of partner node's file system disks • pending_shutdown - Local node is shutting down • dr_in_progress - metrocluster disaster recovery operation is in progress. • mcc_node_object_limit - This node or partner node is in switchover state and MetroCluster config option node-object-limit is off in the DR group of this node.

Element definition: **takeover-status**

[top]

Takeover status of a node and all of its partner aggregates. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, assuming that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate-takeover-status		string	Takeover status of the partner aggregate. This includes the reason for the failure of takeover of an aggregate. If takeover is in progress in a particular module, or if takeover was vetoed by a particular module, that is also indicated. Possible values include: • Done • Failed • In progress, Module: wafl • Not attempted yet • Failed: Operation was vetoed, Module: example. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate does not have SFO HA policy. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate is in failed or limbo state. The aggregate will be taken over during CFO phase of takeover. • Failed to offline the aggregate. The aggregate will be taken over during CFO phase of takeover. • No aggregates to relocate • Failed: Node cannot communicate with the destination node. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. • Failed: Destination node did not online the aggregate on time. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. • Failed: Destination node failed to online the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.

			Failed: Destination cannot receive the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. • Failed: Aggregate is restricted. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate does not have disks. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate is foreign. The aggregate will be taken over during CFO phase of takeover. • Failed: Aggregate is offline. The aggregate will be taken over during CFO phase of takeover. • Failed: Mirrored aggregate does not have both plexes online. The aggregate will be taken over during CFO phase of takeover. • Failed, could not disable firmware updates on . Attributes: non-creatable, non-modifiable
node		string	Name of the node. Attributes: key, non-creatable, non-modifiable
node-takeover-status		string	Takeover status of the node. Attributes: non-creatable, non-modifiable
taken-over-aggregate		string	Name of the taken over aggregate. Attributes: non-creatable, non-modifiable

Element definition: **timeout-info**

[top]

Failover monitor timeouts.

Name	Range	Type	Description
booting		integer	booting timeout, in milliseconds
connect		integer	connect timeout, in milliseconds
dumpcore		integer	dumpcore timeout, in milliseconds
fast		integer	fast timeout, in milliseconds
firmware		integer	firmware timeout, in milliseconds
mailbox		integer	mailbox timeout, in milliseconds
operator		integer	operator timeout, in milliseconds
reboot		integer optional	reboot timeout, in milliseconds
slow		integer	slow timeout, in milliseconds
transit		integer	transit timeout, in milliseconds
transit-timer-enabled		boolean	True, if the transit timer is enabled

Element definition: **advanced-options-modify**

[top]

Advanced Options to Modify

Name	Range	Type	Description

aggregate-migration-timeout	**[30..300]**	integer optional	Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable
cifs-ndo-duration		cifsndoduration optional	Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values: • "default" , • "medium" , • "low"
propagate-mailbox-enabled		boolean optional	Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable
read-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable
write-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable

Element definition: **giveback-options-modify**

[top]

Giveback Options to Modify

Name	Range	Type	Description
auto-giveback-after-panic-enabled		boolean optional	Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
auto-giveback-override-vetoes-enabled		boolean optional	Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable
autogiveback-delay	**[0..600]**	integer optional	Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable
check-partner-enabled		boolean optional	Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable
giveback-attempts-count	**[2..10]**	integer optional	Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable
giveback-attempts-interval	**[1..90]**	integer optional	Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable

Element definition: **giveback-related-info**

[top]

Giveback related Info

Name	Range	Type	Description
giveback-failure-reason		string optional	This is the reason for the giveback failure. Possible values are: • aggr_relocation_in_progress - aggregate relocation is in progress • shutdown_in_progress - shutdown is in progress • testpoint - a giveback failure was simulated with a testpoint • cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems • bck_mbx_update_error - node could not update its backup mailbox • disaster_recovery_in_progress - disaster recovery operation is in progress • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node Attributes: non-creatable, non-modifiable
giveback-module		string optional	The current module giveback process is in. e.g. WAFL Attributes: non-creatable, non-modifiable
giveback-state		string optional	Giveback state of the node. Possible values are: • nothing_to_gb • not_attempted_yet • giveback_in_progress • giveback_failed_autogiveback_disabled • giveback_failed_autogiveback_scheduled • previous_giveback_failed • giveback_vetoed_no_di • giveback_vetoed_missing_disks • autogiveback_scheduled • autogiveback_deferred • node_upgrade_in_progress • sfo_aggr_giveback_failed • sfo_aggr_giveback_in_progress • partial_giveback • partner_spare_disks_giveback_pending Attributes: non-creatable, non-modifiable

Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

Element definition: **interconnect-related-info**

[top]

Interconnect Info

Name	Range	Type	Description
interconnect-links		string optional	States of the individual interconnect links. Attributes: non-creatable, non-modifiable
interconnect-type		string optional	Type and Vendor of the interconnect. Attributes: non-creatable, non-modifiable
is-interconnect-up		boolean optional	True, if storage failover interconnect is up. Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-related-info**

[top]

Node Info

Name	Range	Type	Description
current-mode		hamode optional	Current HA Mode Attributes: non-creatable, modifiable Possible values: • "ha" , • "non_ha"
ha-type		hatype optional	Specifies the type of high-availability configuration. Possible values are: • none - none • shared_storage - shared storage high-availability configuration • non_shared_storage - non-shared storage high-availability configuration Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "shared_storage" - Shared storage HA configuration, • "non_shared_storage" - Non-shared storage HA configuration
local-firmware-progress	**[0..2^32-1]**	integer optional	A counter to indicate that the local node is progressing in the current firmware state. If the counter is not progressing the node may be unresponsive or down. Attributes: non-creatable, non-modifiable
			Local firmware state that will be communicated through interconnect

local-firmware-state		string optional	to the partner. Possible values are: • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for cluster mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps Attributes: non-creatable, non-modifiable
node		node-name optional	Node name Attributes: key, non-creatable, non-modifiable
			Storage failover status of the node. Possible values are: • connected - Partner is available for takeover. • takeover_scheduled - Partner is down and takeover is scheduled. • takeover_started - Takeover process has begun. • takeover - Currently controlling partner's resources. • takeover_failed - Failed to takeover the partner. • giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. • giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. • waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned. • waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. • in_maintenance_mode - Node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. cluster or not; takeover or not, etc). • pending_shutdown - Starting a takeover/giveback is inhibited due to a pending system shutdown. • relocating_aggrs_before_takeover - Node is relocating its SFO aggregates to its partner prior to a negotiated takeover. • sfo_takeover_phase_done - Node is done with the SFO phase of takeover.

node-state		string optional	sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. • sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason. • sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. • in_non_HA_mode - Node is not in HA mode • cfo_takeover_failed - CFO phase of takeover failed • sfo_takeover_phase - SFO phase of takeover of partner is in progress • relocated_aggrs_before_takeover - Node has relocated its SFO aggregates to its partner prior to a negotiated takeover. • giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in. • giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed. • giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated. • previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed. • takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received. • takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks. • takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated. • takeover_network_failure - Local node in takeover. The partner was taken over due to network failure. • takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates. • automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI. • automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI. • ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process. • own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade.

			own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade. • clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online. • clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online. • dr_op_in_progress - MetroCluster disaster recovery operation is in progress. • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting • SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for cluster mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps Attributes: non-creatable, non-modifiable
nvram-id	**[0..2^32-1]**	integer optional	NVRAM identifier Attributes: non-creatable, non-modifiable
partner-firmware-progress	**[0..2^32-1]**	integer optional	A counter to indicate that the partner node is progressing in the current firmware state. If the counter is not progressing the partner node may be unresponsive or down. Attributes: non-creatable, non-modifiable
partner-			Partner firmware state as communicated by the partner through interconnect. Possible values are: • SF_OPERATOR_EXIT - operator completed • SF_DEBUG_EXIT - debugger completed • SF_PROGRESS - progress counter • SF_IOERROR - I/O error • SF_BADCKSUM - bad checksum • SF_RESERVED - reserved • SF_UNKNOWN - unknown • SF_OPEN - initializing • SF_POST - in power-on self test • SF_BOOTING - booting • SF_FAIL - boot failed • SF_WAITING - waiting

firmware-state		string optional	• SF_OS_BOOTED - kernel loaded • SF_UP - up • SF_DEBUG - in debugger • SF_OPERATOR - waiting for operator input • SF_DUMPCORE - dumping core • SF_HALT - halted • SF_REBOOT - rebooting • SF_GIVEWAIT - waiting for giveback • SF_MBWAIT - waiting for cluster mailbox release • SF_SPARECORE - dumping sparecore and ready to be taken-over • SF_MDP - multi-disk panic • SF_TO - in takeover • SF_NOTO - takeover disabled • SF_CLUSTERWAIT - waiting for cluster apps Attributes: non-creatable, non-modifiable
partner-name		string optional	Storage failover partner node name Attributes: non-creatable, non-modifiable
partner-nvram-id	**[0..2^32-1]**	integer optional	Partner NVRAM identifier Attributes: non-creatable, non-modifiable
state-description		string optional	A detailed description of the storage failover state of the node. Attributes: non-creatable, non-modifiable

Element definition: **options-related-info**

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Options Info

Name	Range	Type	Description
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
failover-enabled		boolean optional	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable
ha-mode		hamode optional	Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values: • "ha" , • "non_ha"
sfo-advanced-options-info		advanced-options optional	Advanced Options
sfo-giveback-options-info		giveback-options optional	Giveback Options
sfo-takeover-options-info		takeover-options optional	Takeover Options

Element definition: **storage-related-info**

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Storage Info

Name	Range	Type	Description
local-mailbox-state		mailbox-state[] optional	Primary mailbox status information, represented as a list of strings. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
local-missing-disks		disk-uid[] optional	List of disks that the local node is missing but the partner node is able to view. Attributes: non-creatable, non-modifiable
mailbox-disks-local		disk-uid[] optional	List of local mailbox disks. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
mailbox-disks-partner		disk-uid[] optional	List of partner mailbox disks as this dblade sees them. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
partner-mailbox-state		mailbox-state[] optional	Backup mailbox status information, represented as a list of strings. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable
partner-missing-disks		disk-uid[] optional	List of disks that the partner node is missing but the local node is able to view. Attributes: non-creatable, non-modifiable

Element definition: **takeover-options-modify**

[top]

Takeover Options to Modify

Name	Range	Type	Description
bypass-takeover-optimization-enabled		boolean optional	Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable
short-uptime-duration	**[0..86400]**	integer optional	Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable
takeover-detection-interval	**[0..2^32-1]**	integer optional	Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable
takeover-onfailure-enabled		boolean optional	A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable
takeover-onpanic-enabled		boolean optional	Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable
takeover-onreboot-enabled		boolean optional	Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable

takeover-onshort-uptime-enabled		boolean optional	Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable

Element definition: **takeover-related-info**

[top]

Takeover related Info

Name	Range	Type	Description
takeover-by-partner-not-possible-reason		reason-takeover-not-possible[] optional	It list of one or more reasons why takeover by partner is not possible. Attributes: non-creatable, non-modifiable
takeover-by-partner-possible		boolean optional	True, if storage failover takeover is currently possible. by the partner, false otherwise. Note that this is the local node's view of partner. Attributes: non-creatable, non-modifiable
takeover-enabled		boolean optional	True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable
takeover-failure-reason		string optional	This is the reason for the takeover failure. Possible values are: • shutdown_in_progress - shutdown is in progress • aggr_relocation_in_progress - aggregate relocation is in progress • giveback_in_progress - giveback is in progress • takeover_in_progress - takeover is in progress • unknown_partner_id - node could not detect its partner's system ID • conflicting_sysid - node has the same system ID as its partner • pri_mbx_update_error - node could not update its primary mailbox • takeover_disabled_by_partner - partner has disabled takeover • cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems • non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot • bck_mbx_update_error - node could not update its backup mailbox • partner_taking_over - partner is taking over local node • revert_in_progress - revert is in progress • disaster_recovery_in_progress - disaster recovery operation is in progress • headswap_in_progress - headswap is in progress • destination_check_failed - destination check failed • communication_failed - communication with destination failed • operation_aborted - operation was aborted • aggr_not_online - destination node did not online the aggregate being relocated in time • sfo_disabled - storage failover service is not enabled

			partner_taking_over - partner is taking over local node • bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node • bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node • partner_shutting_down - shutdown is in progress on the partner node • partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node • partner_giveback_in_progress - giveback is in progress on the partner node • partner_revert_in_progress - revert is in progress on the partner node • partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node • partner_in_headswap - headswap is in progress on the partner node Attributes: non-creatable, non-modifiable
takeover-module		string optional	The current module takeover process is in. e.g. WAFL Attributes: non-creatable, non-modifiable
takeover-of-partner-not-possible-reason		reason-takeover-not-possible[] optional	If takeover-possible field is false, it lists of one or more reasons why takeover of partner is not possible. Attributes: non-creatable, non-modifiable
takeover-of-partner-possible		boolean optional	True, if storage failover takeover is currently possible, false otherwise. Attributes: non-creatable, non-modifiable
takeover-reason		takeover-reason	List of reasons why a takeover can happen. Possible values are: • none - Not in takeover • takeover_normal - Operator initiated takeover • takeover_immediate - Operator initiated forced takeover • takeover_ndu - Takeover initiated as part of NDU • takeover_forced - Operator initiated forced takeover, possible data loss • takeover_early - Takeover occuring during bootup of a filer • takeover_operator_exp - Takeover occuring after operator timeout expired • takeover_post_failed - Takeover occuring on POST failure • takeover_panic - Takeover on panic • takeover_shortuptime - Takeover after quick toggling between up & down states • • takeover_sparecore_exp - Takeover on panic timeout expiry • takeover_reboot_exp - Takeover on reboot timer expiry • takeover_booting_exp - Takeover on booting timer expiry • takeover_nfo_shutdown - Takeover on negotiated failover shutdown • takeover_nfo_timer - Takeover on negotiated failover timer expiry • takeover_mdp - Takeover on multi-disk panic • takeover_reboot - Takeover on reboot • takeover_halt - Takeover on halt • takeover_clam - CLAM triggered takeover • takeover_hwassist - H/w assisted takeover Attributes: non-creatable, non-modifiable Possible values:

		optional	• "takeover_none" - None, • "takeover_immediate" - Immediate takeover, • "takeover_ndu" - NDU Takeover, • "takeover_forced" - Forced Takeover, • "takeover_disaster" - Disaster Takeover, • "takeover_early" - Early Takeover, • "takeover_operator_exp" - Takeover Operator Timeout, • "takeover_post_failed" - Takeover POST Failed, • "takeover_panic" - Takeover On Panic, • "takeover_shortuptime" - Takeover On Short Uptime, • "takeover_sparecore_exp" - Takeover On Sparecore Timeout, • "takeover_reboot_exp" - Takeover On Reboot Timeout, • "takeover_booting_exp" - Takeover On Booting Timeout, • "takeover_firmware_exp" - Takeover On Firmware Timeout, • "takeover_nfo_shutdown" - Takeover On Negotiated Failover, • "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout, • "takeover_mdp" - Takeover On MDP, • "takeover_reboot" - Takeover On Reboot, • "takeover_halt" - Takeover On Halt, • "takeover_clam" - CLAM Initiated Takeover, • "takeover_hwassist" - H/w assisted Takeover, • "takeover_normal" - Operator initiated takeover, • "takeover_comm_err" - Takeover On Communication Error
takeover-state		string optional	Takeover state of the node. Possible values are: • takeover_failed - Takeover Failed • sfo_takeover_in_progress - SFO phase of takeover of partner is in progress • relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner • cfo_takeover_scheduled - CFO phase of takeover is scheduled • relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner • takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure. • in_takeover - Node is in takeover • takeover_started - A takeover is in progress • takeover_scheduled - A takeover of partner is scheduled Refer to time-until-takeover field to check time remaining till takeover. • not_in_takeover - Local node is not in takeover Attributes: non-creatable, non-modifiable
time-since-takeover	**[0..2^32-1]**	integer optional	Time in milliseconds since the local node has taken over partner. Attributes: non-creatable, non-modifiable
time-until-takeover	**[0..2^32-1]**	integer optional	This is the countdown time in seconds until takeover is started. Attributes: non-creatable, non-modifiable

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Element definition: **advanced-options**

Advanced Options

Name	Range	Type	Description
aggregate-migration-timeout	**[30..300]**	integer optional	Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable
cifs-ndo-duration		cifsndoduration optional	Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values: • "default" , • "medium" , • "low"
propagate-mailbox-enabled		boolean optional	Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable
read-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable
write-interval	**[1..120]**	integer optional	Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable

Element definition: **cifsndoduration**

[top]

CIFS NDO outage duration Possible values:

- "default" ,
- "medium" ,
- "low"

[none]

Element definition: **disk-uid**

[top]

Disk Unique Identifier

[none]

Element definition: **giveback-options**

[top]

Giveback Options

Name	Range	Type	Description
auto-giveback-after-panic-enabled		boolean optional	Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable
auto-giveback-enabled		boolean optional	True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable
auto-giveback-override-vetoes-enabled		boolean optional	Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable
autogiveback-delay	**[0..600]**	integer optional	Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable
check-partner-enabled		boolean optional	Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable
giveback-attempts-count	**[2..10]**	integer optional	Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable
giveback-attempts-interval	**[1..90]**	integer optional	Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable

Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

Element definition: **hatype**

[top]

none|shared_storage|non_shared_storage Possible values:

- "none" - None,
- "shared_storage" - Shared storage HA configuration,
- "non_shared_storage" - Non-shared storage HA configuration

[none]

Element definition: **mailbox-state**

[top]

State of mailbox disks owned by the node. Possible values are:

- mbx_status_nodisks
- mbx_status_uncertain
- mbx_status_stale
- mbx_status_conflicted
- mbx_status_old_version
- mbx_status_not_found
- mbx_status_wrong_state
- mbx_status_backup

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **reason-takeover-not-possible**

[top]

Reason why takeover is not possible.

- not_initialized - Controller Failover not initialized
- non_ha_mode - Controller is in non-HA mode
- disabled - Controller Failover takeover disabled
- mailbox_invalid - Partner mailbox disks not accessible or invalid
- mailbox_uninit - Partner mailbox status uninitialized
- fm_version_mismatch - Failover monitor version mismatch
- partner_disabled - Takeover disabled by partner
- operator_deny - Takeover disabled by operator
- nvram_mismatch - NVRAM size mismatch
- version - Version mismatch
- ic_error - Interconnect error
- booting - Partner booting
- shelf_hot - Disk shelf is too hot
- partner_revert_in_progress - Partner is performing revert
- local_revert_in_progress - Revert is in progress
- partner_takeover - Partner is attempting takeover
- local_takeover - Already in takeover mode
- halt_no_takeover - Partner halted in notakeover mode
- log_unsync - NVRAM log unsynchronized
- unknown - No takeover due to unknown reason
- waiting_for_partner - Waiting for partner to recover
- low_memory - Low memory condition
- halting - Local halt in progress
- mailbox_uncertain - Status of partner mailbox is uncertain

no_auto_takeover - Automatic takeover is disabled
- disk_inventory_not_exchanged - Disk inventory information not received - from partner
- disk_inventory_mismatch_local - Local node missing some of partner node's file system disks
- pending_shutdown - Local node is shutting down

[none]

Element definition: **takeover-options**

[top]

Takeover Options

Name	Range	Type	Description
bypass-takeover-optimization-enabled		boolean optional	Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable
short-uptime-duration	**[0..86400]**	integer optional	Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable
takeover-detection-interval	**[0..2^32-1]**	integer optional	Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable
takeover-onfailure-enabled		boolean optional	A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable
takeover-onpanic-enabled		boolean optional	Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable
takeover-onreboot-enabled		boolean optional	Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable
takeover-onshort-uptime-enabled		boolean optional	Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable

Element definition: **takeover-reason**

[top]

FM Takeover Reason Possible values:

- "takeover_none" - None,
- "takeover_immediate" - Immediate takeover,
- "takeover_ndu" - NDU Takeover,
- "takeover_forced" - Forced Takeover,
- "takeover_disaster" - Disaster Takeover,
- "takeover_early" - Early Takeover,
- "takeover_operator_exp" - Takeover Operator Timeout,
- "takeover_post_failed" - Takeover POST Failed,

- "takeover_panic" - Takeover On Panic,
- "takeover_shortuptime" - Takeover On Short Uptime,
- "takeover_sparecore_exp" - Takeover On Sparecore Timeout,
- "takeover_reboot_exp" - Takeover On Reboot Timeout,
- "takeover_booting_exp" - Takeover On Booting Timeout,
- "takeover_firmware_exp" - Takeover On Firmware Timeout,
- "takeover_nfo_shutdown" - Takeover On Negotiated Failover,
- "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout,
- "takeover_mdp" - Takeover On MDP,
- "takeover_reboot" - Takeover On Reboot,
- "takeover_halt" - Takeover On Halt,
- "takeover_clam" - CLAM Initiated Takeover,
- "takeover_hwassist" - H/w assisted Takeover,
- "takeover_normal" - Operator initiated takeover,
- "takeover_comm_err" - Takeover On Communication Error

[none]

APIs in Category: **cg**

cg-commit
cg-delete
cg-start

cg-commit

[top]

Commits the snapshots that were started during the preceeding cg-start call that returned the cg-id key, and unfences the volumes that were fenced. If cg-commit API times out, then it means that either too many volumes were specified to the cg-start api or the timeout value for the cg-start api was very small. In this situation, the caller should try to perform the cg-start operation by specifying lesser volumes or by specifying higher timeout value.

Input Name	Range	Type	Description
cg-id		integer	Key to identify the ongoing cg operation.

Errno	Description
EONTAPI_EINVAL	
EVOLUMENOTONLINE	
ECGOFF	
ECGSNAPERR	
ECGERROR	
EONTAPI_ETIMEDOUT	
EVOLUMEBUSY	
ELOCALREVERT	
EVOLUMEREADONLY	
EONTAPI_EVOLOPNOTSUPP	
ENOSPC	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	

Vfiler-enabled
Yes

cg-delete

[top]

Deletes the snaps associated with a CG checkpoint in this filer. This API is deprecated as of Data ONTAP 8.2. Applications using this API should transition to snapshot-multidelete API as appropriate.

Input Name	Range	Type	Description
snapshot		string	The name of the snapshot that is deleted in each volume.
volume-uuids		UUID[]	The identities of the volumes in which to create the snapshot. The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529
volumes		volume-name[]	A list of volumes in this filer that is part of this CG operation.

Errno	Description
ECGOFF	
EONTAPI_EINVAL	
EVOLUMENOTONLINE	
ECGSNAPDELERR	
ECGERROR	

cg-start

[top]

Starts the checkpoint cycle for externally synchronized checkpoints in the filer. This operation fences the specified volumes and returns "success" (if successful). If the API returns "success", the call starts a snapshot create operation in these volumes. If the API returns "success", this operation SHOULD be followed by a call to cg-commit (below).

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
incoming-cg-id		integer optional	This is the common cg-id which the M-host generates internally to keep track of all the D-blades on which this API is executed. When this field is not present, D-blade will generates its own cg-id.
snapmirror-label		string optional	A human readable SnapMirror label to be attached with the consistency group snapshot copies. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshots that are created and will be used by the vaulting system to identify a vaulting scheme.
snapshot		string	The provided name of the snapshot that is created in each volume. This name is the unique identifier by which the calling agent identifies the snapshots that constitute a checkpoint. The maximum length is 255 characters. (= MAXNAMLEN)
snapshot-tags		d-snapshot-tag-info[] optional	The new tags to be set on the given consistency group snapshot copies.

timeout		string optional	Timeout selector. Possible vaules are "urgent", "medium" or "relaxed". If no value is specified, the default value is "medium". Following are the timeout values: "urgent" : 5 seconds "medium" : 7 seconds "relaxed" : 20 seconds
user-timeout		integer optional	User specified timeout value in seconds. This option can be set if the user wants to specify timeout value other than the default timeouts. The API will return failure if both 'timeout' and 'user-timeout' are specified. The minimum value for this field is equal to the "urgent" timeout. The maximum timeout which can be specified is 120 seconds.
volume-uuids		UUID[]	The identities of the volumes in which to create the snapshot. The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529
volumes		volume-name[]	A list of volumes in this filer that is part of this CG operation.

Output Name	Range	Type	Description
cg-id		integer	Identifier of the started cg-start operation. This identifier is used in the succeeding cg-commit call to identify the operation to be commited.
no-fence		boolean optional	This option disables volume fencing. The default value is "false"

Errno	Description
EONTAPI_EINVAL	
EONTAPI_EAGAIN	
EVOLUMENOTONLINE	
EVOLUMEBUSY	
ECGERROR	
EONTAPI_ETIMEDOUT	
EVOLUMEBUSY	
ELOCALREVERT	
EDUPLICATEDSID	
EVOLUMEREADONLY	
EVOLUMEBUSY	
EONTAPI_EVOLOPNOTSUPP	

Vfiler-enabled
Yes

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

APIs in Category: **cifs**

cifs-branchcache-create
cifs-branchcache-flush
cifs-branchcache-get
cifs-branchcache-get-iter
cifs-branchcache-hash
cifs-branchcache-hash-stat
cifs-branchcache-modify
cifs-branchcache-remove
cifs-branchcache-set-key
cifs-cache-settings-get
cifs-cache-settings-modify
cifs-character-mapping-create
cifs-character-mapping-destroy
cifs-character-mapping-get-iter
cifs-character-mapping-modify
cifs-check-server-get-iter
cifs-connection-get-iter
cifs-domain-discovered-servers-get-iter
cifs-domain-discovered-servers-reset
cifs-domain-name-mapping-search-add
cifs-domain-name-mapping-search-get-iter
cifs-domain-name-mapping-search-modify
cifs-domain-name-mapping-search-remove
cifs-domain-password-schedule-get-iter
cifs-domain-password-schedule-modify
cifs-domain-preferred-dc-add
cifs-domain-preferred-dc-get-iter
cifs-domain-preferred-dc-remove
cifs-domain-server-discovery-mode-get
cifs-domain-server-discovery-mode-get-iter
cifs-domain-server-discovery-mode-modify

This set of APIs allows managing CIFS configuration.

cifs-domain-trusts-get-iter
cifs-domain-trusts-rediscover
cifs-home-directory-get-iter
cifs-home-directory-modify
cifs-home-directory-search-path-add
cifs-home-directory-search-path-delete
cifs-home-directory-search-path-get-iter
cifs-home-directory-search-path-remove
cifs-home-directory-search-path-reorder
cifs-homedir-path-get-for-user
cifs-homedir-paths-get
cifs-homedir-paths-set
cifs-list-config
cifs-local-group-create
cifs-local-group-delete
cifs-local-group-get-iter
cifs-local-group-members-add-members
cifs-local-group-members-get-iter
cifs-local-group-members-remove-members
cifs-local-group-modify
cifs-local-group-rename
cifs-local-user-create
cifs-local-user-delete
cifs-local-user-get-iter
cifs-local-user-membership-get-iter
cifs-local-user-modify
cifs-local-user-rename
cifs-local-user-set-password
cifs-nbalias-names-get
cifs-nbalias-names-set
cifs-nbtstat-get-iter
cifs-options-get-iter
cifs-options-modify
cifs-password-change
cifs-password-reset
cifs-preferred-dc-check-get-iter
cifs-privilege-add-privilege
cifs-privilege-get-iter

cifs-privilege-remove-privilege
cifs-privilege-reset-privilege
cifs-security-get-iter
cifs-security-modify
cifs-server-add-netbios-aliases
cifs-server-create
cifs-server-delete
cifs-server-get-iter
cifs-server-modify
cifs-server-remove-netbios-aliases
cifs-server-start
cifs-server-stop
cifs-session-close
cifs-session-file-close
cifs-session-file-get-iter
cifs-session-get-iter
cifs-session-list-iter-end
cifs-session-list-iter-next
cifs-session-list-iter-start
cifs-setup
cifs-setup-create-group-file
cifs-setup-create-passwd-file
cifs-setup-ou-list-iter-end
cifs-setup-ou-list-iter-next
cifs-setup-ou-list-iter-start
cifs-setup-site-list-iter-end
cifs-setup-site-list-iter-next
cifs-setup-site-list-iter-start
cifs-setup-verify-name
cifs-setup-verify-passwd-and-group
cifs-share-access-control-create
cifs-share-access-control-delete
cifs-share-access-control-get-iter
cifs-share-access-control-modify
cifs-share-ace-delete
cifs-share-ace-set
cifs-share-acl-list-iter-end
cifs-share-acl-list-iter-next
cifs-share-acl-list-iter-

start
cifs-share-add
cifs-share-change
cifs-share-create
cifs-share-delete
cifs-share-get-iter
cifs-share-list-iter-end
cifs-share-list-iter-next
cifs-share-list-iter-start
cifs-share-modify
cifs-start
cifs-status
cifs-stop
cifs-symlink-create
cifs-symlink-delete
cifs-symlink-get-iter
cifs-symlink-modify
cifs-top-iter-end
cifs-top-iter-next
cifs-top-iter-start
cifs-user-home-directory-path-get
cifs-user-home-directory-path-get-iter
cifs-users-and-group-local-group-members-get-iter
cifs-users-and-group-local-user-membership-get-iter
volume-charmap-get
volume-charmap-set

cifs-branchcache-create

[top]

Create and setup the BranchCache service.

Input Name	Range	Type	Description
hash-store-max-size		size optional	Maximum size the hash store can grow to.
hash-store-path		string	Path to the directory where hash files are stored.
operating-mode		string optional	The mode in which the BranchCache service will operate.
return-record		boolean optional	If set to true, returns the cifs-branchcache on successful creation. Default: false
server-key		string optional	BranchCache server key.
versions		cifs-bc-version-control[] optional	Versions of the BranchCache protocol that are supported.

Output Name	Range	Type	Description
result		cifs-branchcache optional	The cifs-branchcache created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

cifs-branchcache-flush

[top]

Flush (delete) all the BranchCache hashes that have been generated for a Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-get

[top]

Retrieve information about the BranchCache service.

Input Name	Range	Type	Description
desired-attributes		cifs-branchcache optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cifs-branchcache	The attributes of the cifs-branchcache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-get-iter

[top]

Retrieve the per-Vserver BranchCache configurations for the cluster.

Input Name	Range	Type	Description
desired-attributes		cifs-branchcache optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-branchcache optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-branchcache object. All cifs-branchcache objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-branchcache[] optional	The list of attributes of cifs-branchcache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-branchcache objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-branchcache-hash

[top]

Force the generation of BranchCache hashes for a file or path.

Input Name	Range	Type	Description
path		string	Path of File or Directory to Hash
recurse		boolean optional	If set to 'true', hashes will be recursively computed for all files in the directory

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-hash-stat

[top]

Display the CIFS BranchCache statistics

Input Name	Range	Type	Description
include-filesize-stats		boolean optional	If true, it shows BranchCache hash stats of file sizes for which hashes were requested for. File sizes are <10K, 11K-100K, 101K-250K, 251K-1M, 1.1M-10M, 11M-100M, >100M. The default value of this is false.
include-flush-stats		boolean optional	If true, returns BranchCache hash stats like how many hashes were flushed in multiples of BranchCache hash timeout duration. The default value of this field is false.

Output Name	Range	Type	Description
filesize-more-than-100mb		integer optional	Number of files of size more than 100mb.
filesize-range-0kb-to-10kb		integer optional	Number of files of size less than equal to 10k for which hashes were asked for.
filesize-range-100kb-to-250kb		integer optional	Number of files of size more than 100kb and less than equal to 250kb for which hashes were asked for.
filesize-range-10kb-to-100kb		integer optional	Number of files of size more than 10kb and less than equal to 100kb for which hashes were asked for.
filesize-range-10mb-to-100mb		integer optional	Number of files of size more than 10mb and less than equal to 100mb for which hashes were asked for.
filesize-range-1mb-to-10mb		integer optional	Number of files of size more than 1mb and less than equal to 10mb for which hashes were asked for.
filesize-range-250kb-to-1mb		integer optional	Number of files of size more than 250kb and less than equal to 1mb for which hashes were asked for.
hashes-flashed-post-fifth-timeout		integer optional	Number of hashes flushed after fifth timeout.
hashes-flashed-post-first-timeout		integer optional	Number of hashes flushed in between first and second timeout.
hashes-flashed-post-fourth-timeout		integer optional	Number of hashes flushed in between fourth and fifth timeout.
hashes-flashed-post-second-timeout		integer optional	Number of hashes flushed in between second and third timeout.
hashes-flashed-post-third-timeout		integer optional	Number of hashes flushed in between third and fourth timeout.

Errno	Description
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-branchcache-modify

[top]

Modify the CIFS BranchCache service settings

Input Name	Range	Type	Description
flush-hashes		boolean optional	Delete Existing Hashes
hash-store-max-size		size optional	Maximum Size of the Hash Store
hash-store-path		string optional	Path to Hash Store
operating-mode		string optional	CIFS BranchCache Operating Modes
server-key		string optional	Encryption Key Used to Secure the Hashes
versions		cifs-bc-version-control[] optional	Supported BranchCache Versions

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-remove

[top]

Remove the BranchCache service

Input Name	Range	Type	Description
flush-hashes		boolean	Delete Existing Hashes

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-branchcache-set-key

[top]

Sets the server secret for BranchCache.

Input Name	Range	Type	Description
server-secret		string	A binary string that provides cryptographic data used by the BranchCache content server to generate hashes. Content servers that are serving the same data and are expected to provide the same hash values must use the same key. After changing this value, any existing cached content will be identified as stale and retrieved from the content server again.

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-cache-settings-get

[top]

Get the CIFS name and SID cache configuration of the SVM

Input Name	Range	Type	Description
desired-attributes		cifs-cache-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cifs-cache-settings-info	The attributes of the cifs-cache-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-cache-settings-modify

[top]

Modify the CIFS name and SID cache configuration of the specified SVM. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
is-propagation-enabled		boolean optional	Is Propagation Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	

Errno	Description
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-character-mapping-create

[top]

Create a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

Input Name	Range	Type	Description
mapping		string[]	The mapping for invalid characters in the format XX:XXXX.
return-record		boolean optional	If set to true, returns the cifs-character-mapping on successful creation. Default: false
volume		string	The name of the volume for which character mapping needs to be applied.

Output Name	Range	Type	Description
result		cifs-character-mapping optional	The cifs-character-mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-character-mapping-destroy

[top]

Delete a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

Input Name	Range	Type	Description
volume		string	The name of the volume for which character mapping needs to be applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-character-mapping-get-iter

[top]

Display a character mapping

Input Name	Range	Type	Description
desired-		cifs-character-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		mapping optional	present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-character-mapping optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-character-mapping object. All cifs-character-mapping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-character-mapping[] optional	The list of attributes of cifs-character-mapping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-character-mapping objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-character-mapping-modify

[top]

Modify a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

Input Name	Range	Type	Description
mapping		string[]	The mapping for invalid characters in the format XX:XXXX.
volume		string	The name of the volume for which character mapping needs to be applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-check-server-get-iter

[top]

Display the Status of Connectivity from Each Node to the CIFS Server for the Given Vserver

Input Name	Range	Type	Description
desired-		cifs-check-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-check-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the check-server object. All check-server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
vserver		string	Vserver For Checking the CIFS Server.

Output Name	Range	Type	Description
attributes-list		cifs-check-info[] optional	The list of attributes of check-server objects.
cifs-status		string	CIFS Server Status.
netbios-name		string	The NetBIOS Name of the CIFS Server.
next-tag		string optional	Tag for the next call. Not present when there are no more check-server objects to return.
node		string optional	The Node on Which the Command Will Be Run.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
server		string	The FQDN of the DC, CIFS Server Belongs to.
server-ip		string	The IP address of the DC, CIFS Server Belongs to.
site		string	The Site CIFS Server Belongs to.
status		string	Status of NETLOGON Connection from Node to the CIFS Server.
status-details		string	Time for Establishing NETLOGON Connection from Node to the CIFS Server.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	

cifs-connection-get-iter

[top]

Retrieve the list of the established CIFS connections.

Input Name	Range	Type	Description
desired-attributes		cifs-connection	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-connection optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-connection object. All cifs-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-connection[] optional	The list of attributes of cifs-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-domain-discovered-servers-get-iter

[top]

Retrieve the list of servers discovered by the cluster.

Input Name	Range	Type	Description
desired-attributes		cifs-domain-discovered-servers optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-domain-discovered-servers optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-discovered-servers object. All cifs-domain-discovered-servers objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-domain-discovered-servers[] optional	The list of attributes of cifs-domain-discovered-servers objects.
		string	Tag for the next call. Not present when there are no more cifs-

next-tag		optional	domain-discovered-servers objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-domain-discovered-servers-reset

[top]

Command to trigger re-discovery of servers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-domain-name-mapping-search-add

[top]

Add to the list of trusted domains for name-mapping search

Input Name	Range	Type	Description
trusted-domains		realm-name[]	Trusted Domains

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-name-mapping-search-get-iter

[top]

Retrieve the list of trusted domains for name-mapping search.

Input Name	Range	Type	Description
desired-attributes		cifs-domain-name-mapping-search optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		cifs-domain-	A query that specifies which objects to return. A query could be

query		name-mapping-search optional	specified on any number of attributes in the cifs-domain-name-mapping-search object. All cifs-domain-name-mapping-search objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-domain-name-mapping-search[] optional	The list of attributes of cifs-domain-name-mapping-search objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-domain-name-mapping-search objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-name-mapping-search-modify

[top]

Modify the list of trusted domains for name-mapping search

Input Name	Range	Type	Description
trusted-domains		realm-name[]	Trusted Domains

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-name-mapping-search-remove

[top]

Remove from the list of trusted domains for name-mapping search

Input Name	Range	Type	Description
trusted-domains		realm-name[] optional	Trusted Domains

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-password-schedule-get-iter

[top]

Iterate over a list of cifs-domain-password-schedule objects.

Input Name	Range	Type	Description
desired-attributes		cifs-domain-password-schedule optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-domain-password-schedule optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-password-schedule object. All cifs-domain-password-schedule objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-domain-password-schedule[] optional	The list of attributes of cifs-domain-password-schedule objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-domain-password-schedule objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-domain-password-schedule-modify

[top]

Modify the attributes of cifs-domain-password-schedule object.

Input Name	Range	Type	Description
is-schedule-enabled		boolean optional	Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled.
schedule-day-of-week		cron-day-of-week optional	This field specifies the day of week when the scheduled domain account password change occurs

schedule-randomized-minute	**[1..180]**	integer optional	This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day
schedule-time-of-day		time-of-day optional	This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts
schedule-weekly-interval	**[1..52]**	integer optional	This field specifies the number of weeks after which the scheduled domain account password change must occur

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-domain-preferred-dc-add

[top]

Add to a list of preferred domain controllers

Input Name	Range	Type	Description
domain		string	The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong.
preferred-dc		string[]	Preferred Domain Controllers
skip-config-validation		boolean	Skip Configuration Validation

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-preferred-dc-get-iter

[top]

Retrieve the list of preferred domain controllers associated with Active Directory domains.

Input Name	Range	Type	Description
desired-attributes		cifs-domain-preferred-dc optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-domain-preferred-dc optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-preferred-dc object. All cifs-domain-preferred-dc objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-domain-preferred-dc[] optional	The list of attributes of cifs-domain-preferred-dc objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-domain-preferred-dc objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-preferred-dc-remove

[top]

Remove from a list of preferred domain controllers

Input Name	Range	Type	Description
domain		string	The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong.
preferred-dc		string[] optional	Preferred Domain Controllers

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-domain-server-discovery-mode-get

[top]

Get the CIFS server domain discovery mode of a Vserver

Input Name	Range	Type	Description
desired-attributes		cifs-domain-server-discovery-mode-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cifs-domain-server-discovery-mode-info	The attributes of the cifs-domain-server-discovery-mode.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

cifs-domain-server-discovery-mode-get-iter

[top]

Iterate through the CIFS server domain discovery mode of the cluster

Input Name	Range	Type	Description
desired-attributes		cifs-domain-server-discovery-mode-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-domain-server-discovery-mode-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-server-discovery-mode object. All cifs-domain-server-discovery-mode objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-domain-server-discovery-mode-info[] optional	The list of attributes of cifs-domain-server-discovery-mode objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-domain-server-discovery-mode objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-domain-server-discovery-mode-modify

[top]

Modify the CIFS server domain discovery mode of a Vserver

Input Name	Range	Type	Description
		cifs-domain-server-	Server discovery mode Possible values: • "all" - Discover all the servers in the domain.,

mode		discovery-mode optional	• "site" - Discover the servers local to the site., • "none" - Discover nothing. Expect admins to configure pref-dcs.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-domain-trusts-get-iter

[top]

Retrieve the list of discovered trusted domains.

Input Name	Range	Type	Description
desired-attributes		cifs-domain-trusts optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-domain-trusts optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-trusts object. All cifs-domain-trusts objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-domain-trusts[] optional	The list of attributes of cifs-domain-trusts objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-domain-trusts objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-domain-trusts-rediscover

[top]

Command to trigger re-discovery of trusted domains.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-home-directory-get-iter

[top]

Displays CIFS home directory configurations

Input Name	Range	Type	Description
desired-attributes		cifs-home-directory optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-home-directory optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-home-directory object. All cifs-home-directory objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-home-directory[] optional	The list of attributes of cifs-home-directory objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-home-directory objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-home-directory-modify

[top]

Modify CIFS home directory configurations

Input Name	Range	Type	Description
is-home-dirs-access-for-admin-enabled		boolean optional	Is home directory access is enabled to admin. Default value is true.
is-home-dirs-access-for-public-enabled		boolean optional	Is home directory access is enabled to public. Default value is false.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-home-directory-search-path-add

[top]

Add a path to the list of paths that will be searched to find a CIFS user's home directory.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-home-directory-search-path-delete

[top]

Delete a home directory search path. This API is deprecated in Data ONTAP 8.2 and later but retained for backwards compatibility. Use cifs-home-directory-search-path-remove instead of cifs-home-directory-search-path-delete.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-home-directory-search-path-get-iter

[top]

Iterate over a list of cifs-home-directory-search-path objects.

Input Name	Range	Type	Description
desired-attributes		cifs-home-directory-search-path optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		cifs-	

query		home-directory-search-path optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-home-directory-search-path object. All cifs-home-directory-search-path objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-home-directory-search-path[] optional	The list of attributes of cifs-home-directory-search-path objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-home-directory-search-path objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-home-directory-search-path-remove

[top]

Remove a home directory search path.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-home-directory-search-path-reorder

[top]

Change the position of this path in the list of paths that will be searched to find a CIFS user's home directory.

Input Name	Range	Type	Description
path		string	The file system path that will be searched for finding a CIFS user's home directory.
to-position	**[0..2^32-1]**	integer	The target position this entry should be moved to, in the list of CIFS home directory search paths.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-homedir-path-get-for-user

[top]

Return path to the user's CIFS home directory if it exists.

Input Name	Range	Type	Description
user-name		string	Name of the user. If the filer is using the "mapped" CIFS home directory naming style, then a mapped Unix name is provided. For the domain naming style, a domain/user is provided. Otherwise the filer will expect the NT name for the user. The filer's CIFS home directory naming style can be obtained with the "options-get" api, using input parameter "name cifs.home_dir_namestyle".

Output Name	Range	Type	Description
homedir-path-user		string optional	A Unix-style path to the user's CIFS homedir directory, if it exists, for example: /vol/volName/users/joe.

Errno	Description
ESVCNOTAVAIL	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs-homedir-paths-get

[top]

Return the current list of paths to users' cifs home directories, if any.

Output Name	Range	Type	Description
homedir-paths		homedir-path-info[] optional	An array, one entry per each cifs home directory path.

Errno	Description
ESVCNOTAVAIL	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs

cifs-homedir-paths-set

[top]

Provides a list of CIFS home directory paths for the filer. Replaces the current list of paths in use by the filer. Note that supplying an empty path list causes the filer to delete any current entries.

Input Name	Range	Type	Description
force		boolean optional	If true, the new set of homedir paths will be put into use even if some user homedir connections will be broken. This can cause users with open files in their home directories to lose access to the files. A user can lose data if there are updates not yet committed to disk.
homedir-paths		homedir-path-info[] optional	An array, one entry per each cifs home directory path. note: homedir-path-info defined above

Output Name	Range	Type	Description
path-error		path-error-info[] optional	An array, one entry for each homedir path error detected. Note that normally the API will complete sucessfully and activate as many paths as possible even if some paths cannot be activated.

Errno	Description
ESVCNOTAVAIL	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

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cifs-list-config

[top]

This ZAPI is used to display the CIFS configuration.

Output Name	Range	Type	Description
AD-site		string optional	Active Directory site that the filer is in.
DC-connection		connection-info[]	Information on the Domain Controller's connection.

		optional	
DNS-domainname		string optional	FQDN of DNS domain.
LDAP-connection		connection-info[] optional	Information on the LDAP connection.
NetBIOS-domainname		string optional	NetBIOS domain name.
NetBIOS-servername		string	NetBIOS name of the server
Windows-type		string optional	Windows type: "NT4"
auth-type		string	String specifying the type of authentication, such as: "ad" Active Directory "nt4" Windows NT4 "workgroup" Workgroup "passwd" Password file, NIS or LDAP
domain-controller-functionality		cifs-functional-level optional	Domain controller functionality indicates the functional level of the DC.
domain-functionality		cifs-functional-level optional	Domain functionality enables features that will affect the entire domain and that domain only. It indicates the functional level of the domain.
forest-functionality		cifs-functional-level optional	Forest functionality enables features across all the domains within your forest. It indicates the functional level of the forest.
security-style		string	String specifying the security style, such as: "ntfs" NTFS "multiprotocol" Multiple Protocol

Errno	Description
ECIFSNOTCONFIGURED	
EDNSNOTENABLED	
EHOSTNOTFOUND	
ELDAPSVRNOTFOUND	
EONTAPI_ENOMEM	

Vfiler-enabled
Yes

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cifs

cifs-local-group-create

[top]

Create a single local group

Input Name	Range	Type	Description
description		string optional	The description of the local group

group-name		cifs-name	The name of the local group
return-record		boolean optional	If set to true, returns the cifs-local-group on successful creation. Default: false

Output Name	Range	Type	Description
result		cifs-local-group optional	The cifs-local-group created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-group-delete

[top]

Delete a single local group

Input Name	Range	Type	Description
group-name		cifs-name	The name of the local group

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-group-get-iter

[top]

Retrieve the list of local groups

Input Name	Range	Type	Description
desired-attributes		cifs-local-group optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-local-	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-group object.

		group optional	All cifs-local-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-local-group[] optional	The list of attributes of cifs-local-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-local-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-local-group-members-add-members

[top]

Add local users or Active Directory users or groups to a local group

Input Name	Range	Type	Description
group-name		cifs-name	Group Name
member-names		cifs-name[]	Names of Users or Active Directory Groups to be Added

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-local-group-members-get-iter

[top]

Retrieve the list of local group members

Input Name	Range	Type	Description
desired-attributes		cifs-local-group-members optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-local-group-members optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-group-members object. All cifs-local-group-members objects matching this query up to 'max-records' will be returned.
		string	Specify the tag from the last call. It is usually not specified for

tag		optional	the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-local-group-members[] optional	The list of attributes of cifs-local-group-members objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-local-group-members objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-local-group-members-remove-members

[top]

Remove local users or Active Directory users or groups from a local group

Input Name	Range	Type	Description
group-name		cifs-name	Group Name
member-names		cifs-name[]	Names of Users or Active Directory Groups to be Removed

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-local-group-modify

[top]

Modify a description of a single local group

Input Name	Range	Type	Description
description		string optional	The description of the local group
group-name		cifs-name	The name of the local group

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-group-rename

[top]

Rename a local group

Input Name	Range	Type	Description
group-name		cifs-name	The name of the local group
new-group-name		cifs-name	New Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-local-user-create

[top]

Configure and create a local user, associated with a Vserver

Input Name	Range	Type	Description
description		string optional	The description of the local user
full-name		string optional	The full name of the local user
is-account-disabled		boolean optional	The local user account is disabled
user-name		cifs-name	The name of the local user
user-password		string	The password for the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-local-user-delete

[top]

Delete a single local user

Input Name	Range	Type	Description
user-name		cifs-name	The name of the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	

EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-user-get-iter

[top]

Retrieve the list of local users

Input Name	Range	Type	Description
desired-attributes		cifs-local-user optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-local-user optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-user object. All cifs-local-user objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-local-user[] optional	The list of attributes of cifs-local-user objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-local-user objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-local-user-membership-get-iter

[top]

Retrieve local users' membership information

Input Name	Range	Type	Description
desired-attributes		cifs-local-user-membership optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20

query		cifs-local-user-membership optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-user-membership object. All cifs-local-user-membership objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-local-user-membership[] optional	The list of attributes of cifs-local-user-membership objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-local-user-membership objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-local-user-modify

[top]

Modify a single local user

Input Name	Range	Type	Description
description		string optional	The description of the local user
full-name		string optional	Full name of the local user
is-account-disabled		boolean optional	The user account is disabled
user-name		cifs-name	The name of the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
CIFS

cifs-local-user-rename

[top]

Rename a local user

Input Name	Range	Type	Description
new-user-name		cifs-name	New User Name
user-name		cifs-name	The name of the local user

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-local-user-set-password

[top]

Set password for a local user

Input Name	Range	Type	Description
user-name		cifs-name	The name of the local user
user-password		string	The Password for a Local User

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-nbalias-names-get

[top]

Return the current list of NetBIOS alias names for the filer

Output Name	Range	Type	Description
nbalias-names		nbalias-name-info[] optional	An array, one entry for each NetBIOS alias name

Errno	Description
ESVCNOTAVAIL	
EONTAPI_EINVAL	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-nbalias-names-set

[top]

Provides a list of NetBIOS alias names for the filer. The filer replaces the current list of aliases with with this list. Note that supplying an empty name list causes the filer to delete all current entries.

Output Name	Range	Type	Description
nbalias-names		nbalias-name-info[] optional	An array, one entry for each NetBIOS alias name note: nbalias-name_info defined above

Errno	Description
ESVCNOTAVAIL	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-nbtstat-get-iter

[top]

Retrieve the NetBIOS Name Service statistics for Vservers in cluster.

Input Name	Range	Type	Description
desired-attributes		cifs-nbtstat optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-nbtstat optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NetBIOS statistics object. All NetBIOS statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-nbtstat[] optional	The list of attributes of NetBIOS statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NetBIOS statistics objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-options-get-iter

[top]

Iterate over a list of cifs-options objects.

Input Name	Range	Type	Description
desired-attributes		cifs-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-options optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-options object. All cifs-options objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-options[] optional	The list of attributes of cifs-options objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-options objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-options-modify

[top]

Modify the attributes of cifs-options object.

Input Name	Range	Type	Description
client-session-timeout	**[0..2^32-1]**	integer optional	This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected
default-unix-group		string optional	The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules.
default-unix-user		string optional	The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules.
		cifs-	This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Possible values:

file-system-sector-size		filesystem-sector-size optional	• "512" - Reported file system sector size to SMB clients is 512 bytes, • "4096" - Reported file system sector size to SMB clients is 4096 bytes
grant-unix-group-perms-to-others		boolean optional	This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is false.
guest-unix-user		string optional	This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user.
is-admin-users-mapped-to-root-enabled		boolean optional	This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true.
is-advanced-sparse-file-support-enabled		boolean optional	This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server.
is-advertise-dfs-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true.
is-client-dup-detection-enabled		boolean optional	This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true.
is-client-version-reporting-enabled		boolean optional	This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true.
is-copy-offload-direct-copy-enabled		boolean optional	This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true.
is-copy-offload-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true.
is-dac-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false.
is-exportpolicy-enabled		boolean optional	This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false.
is-fake-open-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true.
is-fsctl-file-level-trim-enabled		boolean optional	This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true.
is-hide-dotfiles-		boolean optional	This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default

enabled			value for this parameter is false.
is-inherit-modebits-with-nfsv4acl-enabled		boolean optional	This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false.
is-large-mtu-enabled		boolean optional	This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true.
is-local-auth-enabled		boolean optional	This optional parameter specifies whether CIFS local users can authenticate.
is-local-users-and-groups-enabled		boolean optional	This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster.
is-multichannel-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false.
is-nbns-enabled		boolean optional	This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false.
is-netbios-over-tcp-enabled		boolean optional	This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true.
is-path-component-cache-enabled		boolean optional	This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true.
is-path-component-cache-symlink-enabled		boolean optional	This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true.
is-read-only-delete-enabled		enable optional	This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Possible values: • "enabled" , • "disabled"
is-referral-enabled		boolean optional	This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false.
is-search-short-names-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false.
is-shadowcopy-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy.
is-share-enum-permission-check-enabled		boolean optional	This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares.

is-smb1-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false.
is-smb2-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true.
is-smb3-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true.
is-smb31-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true.
is-trusted-domain-enum-search-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user.
is-unix-extensions-enabled		boolean optional	This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false.
is-unix-nt-acl-enabled		boolean optional	This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style.
is-use-junctions-as-reparse-points-enabled		boolean optional	This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients.
map-sid-to-uid-on-set-owner		boolean optional	This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'.
max-connections-per-session	**[2..1024]**	integer optional	This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32.
max-credits	**[2..8192]**	integer optional	This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128.
max-file-write-zero-length	**[2^12..2^25]**	integer optional	This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data lengths between 4 KB and 32 MB. The default value for this option is 32 MB.
max-lifs-per-session	**[1..256]**	integer optional	This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256.
max-mpx	**[2..65535]**	integer optional	This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255.
max-opens-same-file-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000.
max-same-tree-connect-	**[0..2^32-1]**	integer	This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The

per-session		optional	default value for this option is 5000.
max-same-user-sessions-per-connection	**[0..2^32-1]**	integer optional	This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500.
max-watches-set-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500.
path-component-cache-entry-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds.
path-component-cache-max-entries	**[1000..1000000]**	integer optional	This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000.
path-component-cache-max-session-token-size	**[500..10000]**	integer optional	This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000.
path-component-cache-symlink-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds.
read-grants-execute		enable optional	On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Possible values: • "enabled" , • "disabled"
restrict-anonymous		anonymous-restriction-level optional	This optional parameter specifies what level of access will a non authenticated user get Possible values: • "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
shadowcopy-dir-depth	**[0..2^32-1]**	integer optional	This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy.
smb1-max-buffer-size	**[4356..65535]**	integer optional	This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535.
widelink-as-reparse-point-versions		cifs-dialects[] optional	This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Possible values: • "smb1" - SMB 1.0, • "smb2" - SMB 2.0,

			• "smb2_1" - SMB 2.1, • "smb3" - SMB 3.0, • "smb3_1" - SMB 3.1
win-name-for-null-user		string optional	This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session.
wins-servers		inet-address[] optional	List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-password-change

[top]

Generate a new password for the CIFS server's machine account and change it in the Windows Active Directory domain.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-password-reset

[top]

Reset the CIFS server's machine account password in the Windows Active Directory domain. This may be required if the password stored along with the machine account in the Windows Active Directory domain is changed or reset without the Vserver's knowledge. This operation requires the credentials for a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of.

Input Name	Range	Type	Description
admin-password		string	Account password for the admin-username.
admin-username		string	Username of a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of. This user is expected to be part of the same Windows Active Directory domain as the CIFS server. If the specified username is not part of the same domain but part of a domain that has a trust relationship with the CIFS server's domain, the username can be specified as ' @ ' where FQDN is the fully qualified domain name of the domain of which the user is a member.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

cifs-preferred-dc-check-get-iter

[top]

Display the Status of the Preferred-DCs configured for the Given Vserver

Input Name	Range	Type	Description
desired-attributes		cifs-preferred-dc-check-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-preferred-dc-check-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-preferred-dc-check object. All cifs-preferred-dc-check objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
vserver		string	Vserver

Output Name	Range	Type	Description
attributes-list		cifs-preferred-dc-check-info[] optional	The list of attributes of cifs-preferred-dc-check objects.
domain		string[]	Domain Name
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-preferred-dc-check objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.
server-ip		string[]	DC Address
status		service-state[]	DC Status
status-details		string[]	Status Details

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	

cifs-privilege-add-privilege

[top]

Add privileges to a local or Active Directory user or group

Input Name	Range	Type	Description
privileges		cifs-privilege-entries[]	Privileges
user-or-group-name		cifs-name	User or Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-privilege-get-iter

[top]

Retrieve the list of local groups

Input Name	Range	Type	Description
desired-attributes		cifs-privilege optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-privilege optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-privilege object. All cifs-privilege objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-privilege[] optional	The list of attributes of cifs-privilege objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-privilege objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-privilege-remove-privilege

[top]

Remove privileges from a local or Active Directory user or group

Input Name	Range	Type	Description
privileges		cifs-privilege-entries[]	Privileges
user-or-group-name		cifs-name	User or Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-privilege-reset-privilege

[top]

Reset privileges for a local or Active Directory user or group

Input Name	Range	Type	Description
user-or-group-name		cifs-name	User or Group Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-security-get-iter

[top]

Iterate over a list of cifs-security objects.

Input Name	Range	Type	Description
desired-attributes		cifs-security optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-security optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-security object. All cifs-security objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-security[] optional	The list of attributes of cifs-security objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-security objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

cifs-security-modify

[top]

Modify the security configuration of a CIFS server.

Input Name	Range	Type	Description
admin-password		string optional	The password of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled.
admin-username		string optional	The username of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled.
advertised-enc-types		cifskrbenctypes[] optional	This parameter determines which encryption types will be advertised to Kerberos. By default AES-256, AES-128, RC4 and DES will be advertised. Possible values: • "des" , • "rc4" , • "aes_128" , • "aes_256"
aes-enabled-for-netlogon-channel		boolean optional	This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false.
encryption-required-for-dc-connections		boolean optional	This parameter determines if encryption is required for connections to domain controllers.
is-aes-encryption-enabled		boolean optional	(DEPRECATED) This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is true.
is-password-complexity-required		boolean optional	This parameter determines whether password complexity is required for local users. By default this option is true.
is-signing-required		boolean optional	This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false.
is-smb-encryption-required		boolean optional	This parameter determines whether SMB encryption is required for incoming CIFS traffic. By default this option is false.
kerberos-clock-skew	**[0..2^32-1]**	integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock.
kerberos-kdc-timeout	**[0..2^32-1]**	integer optional	This parameter determines the timeout value in seconds for KDC connections.
kerberos-renew-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in days for which a ticket can be renewed.
kerberos-ticket-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication.
			This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Possible values:

lm-compatibility-level		lm-compatibility-level optional	• "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos, • "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos, • "ntlmv2_krb" - Accepts NTLMv2 and Kerberos, • "krb" - Accepts Kerberos only
referral-enabled-for-ad-ldap		boolean optional	This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false.
session-security-for-ad-ldap		ldap-security optional	This parameter determines the level of security required for LDAP communications. By default this option is none. Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
smb1-enabled-for-dc-connections		system-default-bool optional	(DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Possible values: • "false" , • "true" , • "system_default"
smb2-enabled-for-dc-connections		system-default-bool optional	This parameter determines if SMB version 2 is used for connections to domain controllers. Possible values: • "false" , • "true" , • "system_default"
try-channel-binding-for-ad-ldap		boolean optional	This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true.
use-ldaps-for-ad-ldap		boolean optional	This parameter determines whether to use LDAPS for Secure Active Directory LDAP connections. By default this option is false.
use-start-tls-for-ad-ldap		boolean optional	This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
ECIFS_SERVER_SMB_ENCRYPTION_WITHOUT_SMB3	
ECIFS_SMB3_ENCRYPTION_NOT_ENABLED	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_REALM_MODE	
E_CIFS_COMMAND_OPTION_CANNOT_MODIFY_IN_REALM_MODE	

cifs-server-add-netbios-aliases

[top]

Add NetBIOS aliases for the CIFS server name

Input Name	Range	Type	Description
netbios-aliases		netbios-name[]	List of NetBIOS Aliases

Errno	Description
ENBALIASMAXNUMREACHED	

cifs-server-create

[top]

Configure and setup CIFS services on a Vserver. If joining a domain, this command may take several minutes to complete.

Input Name	Range	Type	Description
admin-password		string optional	The password for the account used to add this CIFS server to the Active Directory.
admin-username		string optional	The username of the account used to add this CIFS server to the Active Directory.
administrative-status		service-state optional	CIFS Server Administrative Status Possible values: • "down" , • "up"
cifs-server		netbios-name	The NetBIOS name of the CIFS server.
comment		string optional	CIFS Server Description
default-site		string optional	The default site used by LIFs that do not have a site membership.
domain		string optional	The fully qualified domain name of the Windows Active Directory this CIFS server belongs to.
force-account-overwrite		boolean optional	If this is set and a machine account with the same name as specified in 'cifs-server' exists in the Active Directory, it will be overwritten and reused. The default value for this field is false.
keytab-uri		uri optional	Kerberos Keytab File URI
netbios-aliases		netbios-name[] optional	List of NetBIOS Aliases
organizational-unit		string optional	The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to.
realm		string optional	The Kerberos realm this CIFS server belongs to.
workgroup		netbios-name optional	The name of the workgroup this CIFS server belongs to

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
ECIFS_AD_ACCOUNT_ALREADY_EXISTS	
ENBALIASMAXNUMREACHED	

E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_CREATE_IN_DOMAIN_MODE	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_SERVER_AD_ADMINACCOUNT_ZEROLEN	

cifs-server-delete

[top]

Delete a CIFS server. If the admin-username and admin-password are not specified, the CIFS server's machine account will not be deleted from the Windows Active Directory domain. The deletion of the CIFS server will also delete the CIFS shares associated with it.

Input Name	Range	Type	Description
admin-password		string optional	Account password for the admin-username.
admin-username		string optional	A user account name that has sufficient privileges in the Windows Active Directory domain to delete the CIFS server's machine account.
force-account-delete		boolean optional	If this is set, the local CIFS configuration will be deleted irrespective of any communication errors. The default value for this field is false.
keytab-uri		uri optional	Kerberos Keytab File URI

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-server-get-iter

[top]

Retrieve the list of CIFS servers on the cluster and their basic configurations.

Input Name	Range	Type	Description
desired-attributes		cifs-server-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-server-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-server object. All cifs-server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-server-config[]	The list of attributes of cifs-server objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-server-modify

[top]

Modify the basic properties of a CIFS server. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

Input Name	Range	Type	Description
admin-password		string optional	The password for the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified.
admin-username		string optional	The username of the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified.
administrative-status		service-state optional	CIFS Server Administrative Status. Possible values: • "down" , • "up"
cifs-server		netbios-name optional	The name of the CIFS server (up to 15 characters).
comment		string optional	CIFS Server Description
default-site		string optional	The default site used by LIFs that do not have a site membership.
domain		string optional	The fully qualified domain name of the Windows Active Directory this CIFS server belongs to. Example: cifs.domain.com
force-account-overwrite		boolean optional	If this is set and the domain is being modified, and a machine account with the same name as the current Vserver's CIFS server name exists in the Active Directory, it will be overwritten and reused. The default value for this field is false.
keytab-uri		uri optional	Kerberos Keytab File URI
ou		string optional	The organizational unit within the Active Directive domain to associate with the CIFS server.
workgroup		netbios-name optional	The name of the workgroup this CIFS server belongs to. If this input is not specified, it is not modified.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_MODIFY_IN_DOMAIN_MODE	

cifs-server-remove-netbios-aliases

[top]

Remove NetBIOS aliases

Input Name	Range	Type	Description
netbios-aliases		netbios-name[]	List of NetBIOS Aliases

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-server-start

[top]

Start a CIFS server on the specified Vserver. The CIFS server must already exist. To create a CIFS server, use cifs-server-create.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-server-stop

[top]

Stop a CIFS server on the specified Vserver. Note that established sessions will be terminated and their open files closed. Workstations with cached data will not be able to save those changes, which could result in data loss.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-session-close

[top]

Close an open CIFS session

Input Name	Range	Type	Description
address		ip-address optional	The ip address of the workstation from which the session is opened.
auth-mechanism		auth-mechanism optional	The authentication mechanism used to establish the session.
connection-id		integer optional	The connection that is used to establish the session.

continuously-available		cifs-ca-protection optional	The type of continuous avalability protection provided to the session.
is-session-signed		boolean optional	The status of SMB signing that is happening over the CIFS session.
lif-address		ip-address optional	The data lif that is used to establish the session.
node		node-name	The name of the node on which the session listing is done.
protocol-version		cifs-dialects optional	The CIFS protocol version that is used to establish the session.
session-id		integer optional	The unique identifier for the session.
smb-encryption-status		smb-encryption optional	The status of SMB encryption that is happening over the CIFS session.
unix-user		string optional	The name of the UNIX user for which the session is established.
windows-user		string optional	The name of the CIFS user for which the session is established.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-session-file-close

[top]

Close an open CIFS file.

Input Name	Range	Type	Description
connection-id		integer optional	The connection that is used to open the file.
file-id		integer optional	The unique identifier for the opened file.
node		node-name	The name of the node on which the file listing is done.
session-id		integer optional	The session under which file is opened.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-session-file-get-iter

[top]

Retrieve the list of the opened CIFS files.

Input Name	Range	Type	Description
		cifs-	Specify the attributes that should be returned. If not present, all

desired-attributes		session-file optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-session-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-session-file object. All cifs-session-file objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-session-file[] optional	The list of attributes of cifs-session-file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-session-file objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-session-get-iter

[top]

Retrieve the list of the established CIFS sessions.

Input Name	Range	Type	Description
desired-attributes		cifs-session optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-session optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-session object. All cifs-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-session[] optional	The list of attributes of cifs-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-session objects to return.

num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-session-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-session-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-session-list-iter-next

[top]

Returns items from a previous call to cifs-session-list-iter-start.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-session-list-iter-start.

Output Name	Range	Type	Description
cifs-sessions		cifs-session-info[]	An array, one entry per each cifs session.
records		integer	This tells you how many records are being returned from this particular call to cifs-session-list-iter-next. When this value is 0, you have retrieved everything. Range: [0..2^32-1].

Vfiler-enabled
Yes

License
cifs

cifs-session-list-iter-start

[top]

Gives information on current CIFS activity. Without arguments, it returns a summary of information about the filer and lists the users who are connected to the filer.

Input Name	Range	Type	Description
host		string optional	IP address/machine name of the user's client machine.
protocol		string optional	Filters the information on the basis of protocol version specified. When 'smb' is specified as the argument, this API retrieves information about only SMB 1.0 sessions. When 'smb2' is specified as the argument, this API retrieves information about only SMB 2.0 sessions. If this option is not specified, then information about both SMB 1.0 and SMB 2.0 sessions is retrieved.
user		string optional	User name. If user is specified , this api returns information about the specified user, along with the names and access level of files that the user has opened. This api returns information about all the users, if the user is specified as '*' or is not specified.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-session-list-iter-next.

Errno	Description
EAPILICENSE	
ESERVICEDISABLED	
ESVCNOTAVAIL	

Vfiler-enabled
Yes

License
cifs

cifs-setup

[top]

Configures the filer's CIFS service. The CIFS service will start automatically once this call completes successfully.

Input Name	Range	Type	Description
auth-type		string	The authentication style that determines the method by which clients will be authenticated when connecting to this CIFS server. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad.
domain-name		string optional	The name of the domain that the CIFS server will join. This can be the NetBIOS or fully qualified domain name. Examples: cifsdomain, cifs.domain.com
login-password		string optional encrypted	The password for login-user.

login-user		string optional	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username
ou-name		string optional	The distinguished name of the organizational unit that the CIFS service will become a member of. This value must be one of the cifs-setup-ous retrieved from a call to the cifs-setup-container-list-iter APIs. By default, the filer will join the 'CN=Computers' organizational unit. Note: This information is only used when the auth-type is 'ad'.
pdc-ip-address		ip-address optional	If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'.
security-style		string	The security style determines whether or not the CIFS service will support multiprotocol access. These styles are subject to change in a future release. Possible values: ntfs, multiprotocol
server-name		string	The resulting CIFS server name.
site-name		string optional	The name of the site that the CIFS service will become a member of. This value must be one of the cifs-setup-sites retrieved from a call to the cifs-setup-container-list-iter APIs. If a default-site was returned, it is the recommended choice. Sites will be ignored if this value is left blank. Note: This information is only used when the auth-type is 'ad'.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	
ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	
ECIFS_PASSWD_AND_GROUP_REQUIRED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-create-group-file

[top]

Creates a basic /etc/group file. Note: This will overwrite an existing /etc/group file. See cifs-setup-verify-passwd-and-group for more information.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	
ECIFS_SETUP_CANNOT_WRITE	

Vfiler-enabled
Yes

License
cifs

cifs-setup-create-passwd-file

[top]

Creates a basic /etc/passwd file including a root user with the specified password. Note: This will overwrite an existing /etc/passwd file. See cifs-setup-verify-passwd-and-group for more information.

Input Name	Range	Type	Description
default-root-password		string encrypted	The password given to a locally defined root user which may be used in the event that other authentication services are unavailable. This will be defined in the filer's local /etc/passwd file.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	
ECIFS_SETUP_CANNOT_WRITE	

Vfiler-enabled
Yes

License
cifs

cifs-setup-ou-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-setup-ou-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-setup-ou-list-iter-next

[top]

Returns items from a previous call to cifs-setup-ou-list-iter-start

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-setup-ou-list-iter-start.

Output Name	Range	Type	Description
cifs-setup-ous		cifs-setup-ou[]	An array, one entry per each joinable organizational unit.
records		integer	This tells you how many records are being returned from this particular call to cifs-setup-ou-list-iter-next. When this value is 0, you have retrieved everything.

Vfiler-enabled
Yes

License
cifs

cifs-setup-ou-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-ou-list-iter-next. For more information regarding Active Directory organizational units and their use, please reference Microsoft's Active Directory documentation.

Input Name	Range	Type	Description
domain-name		string	The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com
login-password		string encrypted	The password for login-user.
login-user		string	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-setup-ou-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-setup-ou-list-iter-next.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	
ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-site-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-setup-site-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-setup-site-list-iter-next

[top]

Returns items from a previous call to cifs-setup-site-list-iter-start

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-setup-site-list-iter-start.

Output Name	Range	Type	Description
		cifs-	

cifs-setup-sites		setup-site[]	An array, one entry per each joinable organizational unit.
default-site		string optional	If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead.
records		integer	This tells you how many records are being returned from this particular call to cifs-setup-site-list-iter-next. When this value is 0, you have retrieved everything.

Vfiler-enabled
Yes

License
cifs

cifs-setup-site-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-site-list-iter-next. For more information regarding Active Directory sites and their use, please reference Microsoft's Active Directory documentation.

Input Name	Range	Type	Description
domain-name		string	The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com
login-password		string encrypted	The password for login-user.
login-user		string	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username

Output Name	Range	Type	Description
default-site		string optional	If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead.
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-setup-site-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-setup-site-list-iter-next.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	

ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-verify-name

[top]

Determines whether or not a particular CIFS server name is already in use on the network and a specified domain.

Input Name	Range	Type	Description
auth-type		string	The authentication style that will be used in a subsequent call to cifs-setup. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad.
domain-name		string	The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com
login-password		string optional encrypted	The password for login-user.
login-user		string optional	The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username
pdc-ip-address		ip-address optional	If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'.
server-name		string	The NetBIOS CIFS server name that will be verified. Example: cifsserver

Output Name	Range	Type	Description
is-in-domain		boolean	Returns 'true' if the name exists in the domain, otherwise returns 'false'. For 'ad'-style domains, if an entry exists a warning should be provided. For 'nt4'-style domains, an entry must exist or cifs-setup will fail.
is-in-use		boolean	Returns 'true' if the name is in use on the network, otherwise returns 'false'.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	

EINTERNALERROR	
ECIFS_LOGIN_FAILED	
ECIFS_BIND_FAILED	
ECIFS_DNS_REQUIRED	
ECIFS_KRB_CONFLICT	
ECIFS_AD_CLOCK_SKEW	
ECIFS_AD_RESET_REQUIRED	
ECIFS_LIST_UNAVAILABLE	
ECIFS_DC_CONNECT_FAILED	

Vfiler-enabled
Yes

License
cifs

cifs-setup-verify-passwd-and-group

[top]

Determines whether or not the /etc/passwd and /etc/group files exist, which would be used in the event that the configured CIFS authentication method fails.

Output Name	Range	Type	Description
group-file-exists		boolean	Returns 'true' if the /etc/group file exists, otherwise returns 'false'.
passwd-file-exists		boolean	Returns 'true' if the /etc/passwd file exists, otherwise returns 'false'.
required		boolean	Returns 'true' if the /etc/passwd and /etc/group files would be required before running the cifs-setup API. cifs-setup will require these files if neither LDAP nor NIS are enabled, as they will be used as a backup authentication method should the primary method (i.e. domain authentication) become unavailable.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-access-control-create

[top]

Add permissions for a user or group for a defined CIFS share.

Input Name	Range	Type	Description
permission		cifs-access-perms	The access rights that the user or group has on the defined CIFS share. Possible values: • "no_access" - No access, • "read" - Read, • "change" - Change, • "full_control" - Full Control, • "custom" - Custom
return-record		boolean optional	If set to true, returns the cifs-share-access-control on successful creation. Default: false
share		string	The CIFS share for which the permissions are defined.
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string	The user or group name for which the permissions are listed.
winsid		windows-sid optional	The Windows SID for the user or group for which the permission is defined.

Output Name	Range	Type	Description
result		cifs-share-access-control optional	The cifs-share-access-control created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

cifs-share-access-control-delete

[top]

Remove permissions for a user or group on a defined CIFS share.

Input Name	Range	Type	Description
share		string	The CIFS share for which the permissions are defined.
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string	The user or group name for which the permissions are listed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-share-access-control-get-iter

[top]

Retrieve the list of permissions on defined CIFS shares.

Input Name	Range	Type	Description
desired-attributes		cifs-share-access-control optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-share-access-control optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-share-access-control object. All cifs-share-access-control objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-share-access-control[] optional	The list of attributes of cifs-share-access-control objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-share-access-control objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-share-access-control-modify

[top]

Modify the permissions for a user or group on a defined CIFS share.

Input Name	Range	Type	Description
permission		cifs-access-perms optional	The access rights that the user or group has on the defined CIFS share. Possible values: • "no_access" - No access, • "read" - Read, • "change" - Change, • "full_control" - Full Control, • "custom" - Custom

share		string	The CIFS share for which the permissions are defined.
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string	The user or group name for which the permissions are listed.
winsid		windows-sid optional	The Windows SID for the user or group for which the permission is defined.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-share-ace-delete

[top]

Deletes the access control entry of the given share or the unix group. This API is equivalent to "cifs access [-g] " CLI.

Input Name	Range	Type	Description
is-unixgroup		boolean optional	This filter is used to tell that the access rights of the unix group have to be deleted. If its value is true, uinx-group-name needs to be provided. Otherwise it fails with the reason "group-name missing". The default value of this is false.
share-name		string	CIFS share name. It specifies name of the share of which the access rights have to be deleted. This is a case insensitive field. The maximum size of the share name is 256 characters.
unix-group-name		string optional	Name of the unix group. This field specifies the unix group of which the access rights to be deleted. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group "
user-name		string optional	Name of the user. This API deletes the access rights of the specified user. This is a case sensitive field. The format of the field is . If specified user does not exist, It fails with the reason "Unknown user ".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
ESVCDISABLED	
EAPILICENSE	

Vfiler-enabled
Yes

License
cifs

cifs-share-ace-set

[top]

Sets the ace to the share for the given user or unix group. This API is equivalent to "cifs access [-g] " CLI.

Input Name	Range	Type	Description
access-rights		string	Access rights to be set to the above share and user. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control"
is-unixgroup		boolean optional	This filter is used to tell that the access rights are to be set to the unix group. If its value is true, unix-group-name needs to be provided. Otherwise API fails with the reason "group-name missing". The default value of this is false.
share-name		string	CIFS share name. It specifies name of the share to which the access rights have to be set. This is a case insensitive field. The maximum size of the share name is 256 characters.
unix-group-name		string optional	Name of the unix group. This field specifies the unix group to which the access rights are to be set. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group : ".
user-name		string optional	Name of the user. This API sets the access rights to the specified user. This is a case sensitive field. The format of the field . If specified user does not exist, It fails with the reason "Unknown user: ".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
ESVCDISABLED	
EAPILICENSE	

Vfiler-enabled
Yes

License
cifs

cifs-share-acl-list-iter-end

[top]

Terminates a list iteration and cleans up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from the previous cifs-share-acl-list-iter-start

Vfiler-enabled
Yes

License

cifs

cifs-share-acl-list-iter-next

[top]

Returns items from a previous call to cifs-share-acl-list-iter-start.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range:[0..2^32-1]
tag		string	Tag from the previous cifs-share-acl-list-iter-start

Output Name	Range	Type	Description
cifs-share-acls		cifs-share-acl-info[]	An array, one entry per each cifs share.
records		integer	This tells you how many records are being returned from this particular call to cifs-share-acl-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1]

Vfiler-enabled
Yes

License
cifs

cifs-share-acl-list-iter-start

[top]

Gives information about one or more shares acl.

Input Name	Range	Type	Description
share-name		string optional	Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified pattern are listed.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-share-acl-list-iter-next. Range:[0..2^32-1]
tag		string	Tag to be used in subsequent calls to cifs-share-acl-list-iter-next

Errno	Description
EINVALIDINPUTERROR	
EAPIERROR	
ESVCNOTAVAIL	
EINTERNALERROR	

ESVCDISABLED	
EAPILICENSE	

Vfiler-enabled
Yes

License
cifs

cifs-share-add

[top]

Creates a new CIFS share rooted at the specified path.

Input Name	Range	Type	Description
caching		string optional	If specified, the following is done based on the value of the string: "no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
comment		string optional	If specified, gives description of the new share. CIFS clients see this description when browsing the filer's shares. If not specified, the description is blank.
dir-umask		integer optional	If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask".
file-umask		integer optional	If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask".
forcegroup		string optional	If specified, provides name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If it is an empty string or else not specified, then files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file.
is-access-based-enum		boolean optional	If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
is-browse		boolean optional	If true or not specified, shares are visible to browsing clients and can be enumerated (e.g. "net view", SrvMgr, AD).
is-namespace-caching-allowed		boolean optional	If true, namespace caching is enabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance.
is-symlink-strict-security		boolean optional	If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the

			symbolic link's destination.
is-vscan		boolean optional	If true or not specified, virus scan is done when clients open files on this share, else no virus scan is done.
is-vscanread		boolean optional	If true or not specified, virus scan is done when clients open files on this share for read access, else no virus scan is done for read access on this share.
is-widelink		boolean optional	If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false or not specified, widelinks in the share are disabled.
maxusers		integer optional	If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. If not specified, the filer does not impose a limit on the number of connections to the share.
path		string	Full path name of the directory on the filer corresponding to the root of the new share.
share-name		string	Name of the share to be added. The name cannot exceed 12 characters for DOS-style shares and 256 characters for others.
umask		integer optional	If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file or directory. If not specified, the file mode creation mask of the share is 0. This field is ignored when both dir-umask and file-umask are present.

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESVCDISABLED	
ESVCNOTAVAIL	
ECIFSSHARINGVIOLATION	
EVOLUMEINUSE	
EONTAPI_ENOMEM	
ESHARETOOMANY	
ESHAREEXISTS	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-change

[top]

Changes settings of one or more CIFS shares at any time, even if the shares are in use.

Input Name	Range	Type	Description
			If specified, the following is done based on the value of the string:

caching		string optional	"no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "manual_caching": allow users on Windows clients to manually select files to be cached. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
comment		string optional	If specified, changes description of the share. CIFS clients see this description when browsing the filer's shares. Specifying an empty string clears the previous description.
dir-umask		integer optional	If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask". Specifying an empty string resets (removes) this dir-umask.
file-umask		integer optional	If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask". Specifying an empty string resets (removes) this file-umask.
forcegroup		string optional	If specified, changes name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If the string is empty, files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file.
is-access-based-enum		boolean optional	If true Access Based Enumeration (ABE) is enabled, if false it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
is-browse		boolean optional	If true or undefined, share is visible to browsers and can be enumerated.
is-namespace-caching-allowed		boolean optional	If true, namespace caching is enabled on the share. If false, namespace caching is disabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance.
is-symlink-strict-security		boolean optional	If true, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the symbolic link's destination.
is-vscan		boolean optional	If true, virus scan is done when clients open files on this share, else virus scan is not done.
is-vscanread		boolean optional	If true, virus scan is done when clients open files on this share for read access, else virus scan is not done for read access.
is-widelink		boolean optional	If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false, widelinks in the share are disabled.
maxusers		integer optional	If specified, changes the maximum number of simultaneous connections to the new share. It must be a positive number or else zero, in which case no limit is imposed on the number of connections to the share.
share-name		string	If fully specified, it's the name of the existing share to be changed. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are to be changed.
			If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions

umask		integer optional	setting of a newly created file or directory. Specifying a zero value resets (removes) the file mode creation mask. This field is ignored when both dir-umask and file-umask are present.

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESVCDISABLED	
ESVCNOTAVAIL	
EONTAPI_ENOMEM	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-create

[top]

Creates a new CIFS share rooted at the specified path.

Input Name	Range	Type	Description
attribute-cache-ttl	**[0..2^32-1]**	integer optional	The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400.
comment		string optional	This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares.
dir-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
file-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the

			second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
force-group-for-create		string optional	If specified, all files created by CIFS users in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. By default this option will be disabled.
is-path-validation-enabled		boolean optional	This optional parameter specifies whether the CIFS Share Path validation is enabled or not. The default value for this parameter is true.
max-connections-per-share	**[1..2^32-1]**	integer optional	If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. The default value is 4294967295.
offline-files-mode		string optional	Mode of the offline file for the CIFS share. The default value is manual. Possible values: • "none" - Clients are not permitted to cache files for offline access., • "manual" - Clients may cache files that are explicitly selected by the user for offline use., • "documents" - Clients may automatically cache files that are used by the user for offline access., • "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
path		string	The file system path that is shared through this CIFS share.
return-record		boolean optional	If set to true, returns the cifs-share on successful creation. Default: false
share-name		string	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?"*
			The list of properties for this CIFS share. Possible values: • "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share., • "browsable" - This specifies that the share can be browsed by Windows clients., • "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients., • "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify., • "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property can only be set during the create process and cannot be altered later. • "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance. • "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache

share-properties		cifs-share-properties[] optional	technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. • "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups. • "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share. • "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. • "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers. • "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share. • "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.
symlink-properties		cifs-share-symlink-properties[] optional	This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values: • "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write, • "hide" (DEPRECATED) Hide both symlinks and wide links, • "read_only" (DEPRECATED) Enable symlinks for read-only, • "symlinks" Enable symlinks only for read-write, DFS is not advertised, • "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised, • "disable" Disable both local symlinks and wide links, DFS is not advertised • "no_strict_security" Allow clients to follow symlinks beyond share boundaries
vscan-fileop-profile		vscan-fileop-profile optional	Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values: • "no_scan" - Virus scans are never triggered for accesses to this share, • "standard" - Virus scans can be triggered by open, close, and rename operations, • "strict" - Virus scans can be triggered by open, read, close, and rename operations, • "writes_only" - Virus scans can be triggered only when a

			file that has been modified is closed.

Output Name	Range	Type	Description
result		cifs-share optional	The cifs-share created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

cifs-share-delete

[top]

Deletes the specified CIFS share.

Input Name	Range	Type	Description
share-name		string	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?"*

Errno	Description
EAPIMISSINGARGUMENT	
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESVCDISABLED	
ESVCNOTAVAIL	
EINTERNALERROR	
EOBJECTNOTFOUND	

Vfiler-enabled
Yes

License
cifs

cifs-share-get-iter

[top]

Gives information about one or more CIFS shares.

Input Name	Range	Type	Description
desired-attributes		cifs-share optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		cifs-share optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-share object. All cifs-share objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-share[] optional	The list of attributes of cifs-share objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-share objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-share-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-share-list-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-share-list-iter-next

[top]

Returns items from a previous call to cifs-share-list-iter-start

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-share-list-iter-start.

Output Name	Range	Type	Description
cifs-shares		cifs-share-info[]	An array, one entry per each cifs share.
			This tells you how many records are being returned from this particular

records		integer	call to cifs-share-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1]

Vfiler-enabled
Yes

License
cifs

cifs-share-list-iter-start

[top]

Gives information about one or more shares, the results of which are retrieved by using cifs-share-list-iter-next.

Input Name	Range	Type	Description
share-name		string optional	Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are listed.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-share-list-iter-next.
tag		string	Tag to be used in subsequent calls to cifs-share-list-iter-next.

Errno	Description
EAPILICENSE	
EONTAPI_EINVAL	
ESHAREACCESSDENIED	
ESERVICEDISABLED	
ESVCNOTAVAIL	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-share-modify

[top]

Modifies settings of a CIFS share, even if the shares are in use.

Input Name	Range	Type	Description
			The lifetime of an entry in the file attribute cache, in seconds.

attribute-cache-ttl	**[0..2^32-1]**	integer optional	This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400.
comment		string optional	This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares.
dir-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
file-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values.
force-group-for-create		string optional	This optional parameter specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. You can disable this option by passing a null string "".
is-path-validation-enabled		boolean optional	This optional parameter specifies whether the CIFS Share Path validation is enabled or not.
max-connections-per-share	**[1..2^32-1]**	integer optional	If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number.
offline-files-mode		string optional	Mode of the offline file for the CIFS share. The default value is manual. Possible values: • "none" - Clients are not permitted to cache files for offline access., • "manual" - Clients may cache files that are explicitly selected by the user for offline use., • "documents" - Clients may automatically cache files that are used by the user for offline access., • "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
path		string optional	The file system path that is shared through this CIFS share.
share-name		string	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double

			quotes) and the characters \/[]:|<>+=;,?"*
share-properties		cifs-share-properties[] optional	The list of properties for this CIFS share. Possible values: • "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share., • "browsable" - This specifies that the share can be browsed by Windows clients., • "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients., • "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify., • "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property cannot be added or removed from existing share. • "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance. • "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. • "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups. • "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share. • "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. • "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers. • "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share. • "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.
			This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values:

symlink-properties		cifs-share-symlink-properties[] optional	• "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write, • "hide" (DEPRECATED) Hide both symlinks and wide links, • "read_only" (DEPRECATED) Enable symlinks for read-only, • "symlinks" Enable symlinks only for read-write, DFS is not advertised, • "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised, • "disable" Disable both local symlinks and wide links, DFS is not advertised • "no_strict_security" Allow clients to follow symlinks beyond share boundaries
vscan-fileop-profile		vscan-fileop-profile optional	Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values: • "no_scan" - Virus scans are never triggered for accesses to this share, • "standard" - Virus scans can be triggered by open, close, and rename operations, • "strict" - Virus scans can be triggered by open, read, close, and rename operations, • "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cifs-start

[top]

Starts the CIFS service, usually after a previous call to cifs-stop as the CIFS service starts automatically when cifs-setup completes successfully or the system reboots.

Errno	Description
EAPILICENSE	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-status

[top]

Returns the running state of the CIFS service.

Output Name	Range	Type	Description
status		string	The current status of the CIFS service, which will be one of the following: STOPPED, STARTED, STOPPING, STARTING

Errno	Description
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-stop

[top]

Stops the CIFS service for all users or a particular workstation, if specified. Appropriate warning should be given to connected clients before calling this API, as it will immediately terminate those sessions regardless of their current state. See the cifs-sessions API for the list of clients that are currently connected.

Input Name	Range	Type	Description
workstation		string optional	The name or IP address of a workstation that will be disconnected from the CIFS service. Note that the CIFS service does not stop if this value is specified, it simply disconnects related sessions.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
ESVCNOTAVAIL	
ESVCDISABLED	
EINTERNALERROR	

Vfiler-enabled
Yes

License
cifs

cifs-symlink-create

[top]

Create a new CIFS symbolic link path mapping from a UNIX symlink to a target CIFS path. This symbolic link path mapping will be effective on symbolic links that have a prefix match with the value of 'unix-path'. e.g.: if the value of 'unix-path' is '/usr/local/' and there exists a symbolic link on the file

system at '/home/user/link' which points to '/usr/local/share/dest'. If a CIFS client accesses the symbolic link 'link', this entry of path mapping would have a prefix match '/usr/local/'. The CIFS client would be redirected to the location pointed to by this path mapping's 'cifs-server', 'share-name' and 'cifs-path' fields.

Input Name	Range	Type	Description
cifs-path		string	This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization.
cifs-server		string optional	This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address.
home-directory		boolean optional	This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false.
locality		cifs-symlink-locality optional	This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values: • "local" - Share on This VServer, • "widelink" - Share on Another CIFS Server, • "freelink" - Anywhere on This VServer (OBSOLETE)
return-record		boolean optional	If set to true, returns the cifs-symlink on successful creation. Default: false
share-name		string optional	This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization.
unix-path		string	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'.

Output Name	Range	Type	Description
result		cifs-symlink optional	The cifs-symlink created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	

Errno	Description
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-symlink-delete

[top]

Delete a CIFS symbolic link path mapping.

Input Name	Range	Type	Description
unix-path		string	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-symlink-get-iter

[top]

Retrieve the list of CIFS symbolic link path mappings.

Input Name	Range	Type	Description
desired-attributes		cifs-symlink optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-symlink optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-symlink object. All cifs-symlink objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-symlink[] optional	The list of attributes of cifs-symlink objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-symlink objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description

Errno	Description
EINTERNALERROR	

cifs-symlink-modify

[top]

Modify a CIFS symbolic link path mapping parameters.

Input Name	Range	Type	Description
cifs-path		string optional	This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization.
cifs-server		string optional	This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address.
home-directory		boolean optional	This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false.
locality		cifs-symlink-locality optional	This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values: • "local" - Share on This VServer, • "widelink" - Share on Another CIFS Server, • "freelink" - Anywhere on This VServer (OBSOLETE)
share-name		string optional	This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization.
unix-path		string	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

cifs-top-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous cifs-top-iter-start.

Vfiler-enabled
Yes

License
cifs

cifs-top-iter-next

[top]

Returns items from a previous call to cifs-top-iter-start.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous cifs-top-iter-start.

Output Name	Range	Type	Description
cifs-top		cifs-top-info[]	An array, one entry per cifs top.
records		integer	This tells you how many records are being returned from this particular call to cifs-top-iter-next. When this value is 0, you have retrieved everything.

Vfiler-enabled
Yes

License
cifs

cifs-top-iter-start

[top]

Display CIFS client statistics

Input Name	Range	Type	Description
			Specifies how the client statistics are to be averaged for display: "smooth": Use a smoothed average which is weighted towards recent behavior but takes into account previous history of the client. "now":

avgtype		string optional	Use a one-second sample taken immediately and no history is taken into account. "total": Use the total count of each statistic divided by the total time since sampling started. If the is-verbose option is also set, the totals are given without dividing by the sample time.
maxclients		integer optional	Specifies the maximum number of top clients to display (the default is 20).
sortgroup		string optional	If specified, the client statistics are sorted by the value of the string: "ops": Sort by the number of operations per second of any type. "reads": Sort by kbytes/sec of data in response to read requests. "writes": Sort by kbytes/sec of data written to the filer. "ios": Sort by the combined total of reads plus writes for each client. "suspicious": Sort by the number of "suspicious" events per second by each client.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next. Range:[0..2^32-1]
tag		string	Tag to be used in subsequent calls to cifs-session-list-iter-next.

Errno	Description
ECLIENTSTATSVFILER	
ECLIENTSTATSNOTENABLED	
ENOACTIVECLIENTS	

Vfiler-enabled
Yes

License
cifs

cifs-user-home-directory-path-get

[top]

Find the user's home directory based on user name

Input Name	Range	Type	Description
username		string	The name of CIFS user for which home directory path has to be found out.

Output Name	Range	Type	Description
out-username		string optional	Output User Name
path		string optional	The path of home directory for the specified user name.
share-name		string optional	The expanded share name for the user.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

cifs-user-home-directory-path-get-iter

[top]

Find the user's home directory based on user name

Input Name	Range	Type	Description
desired-attributes		cifs-user-home-directory-path optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-user-home-directory-path optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-user-home-directory-path object. All cifs-user-home-directory-path objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
username		string	The name of CIFS user for which home directory path has to be found out.

Output Name	Range	Type	Description
attributes-list		cifs-user-home-directory-path[] optional	The list of attributes of cifs-user-home-directory-path objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-user-home-directory-path objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.
out-username		string optional	Output User Name
path		string optional	The path of home directory for the specified user name.
share-name		string optional	The expanded share name for the user.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

cifs-users-and-group-local-group-members-get-iter

[top]

Retrieve the list of local group members

Input Name	Range	Type	Description
desired-attributes		cifs-users-and-group-local-group-members optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-users-and-group-local-group-members optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-group-members object. All cifs-users-and-group-local-group-members objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-users-and-group-local-group-members[] optional	The list of attributes of cifs-users-and-group-local-group-members objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-users-and-group-local-group-members objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cifs-users-and-group-local-user-membership-get-iter

[top]

Retrieve local users' membership information

Input Name	Range	Type	Description
desired-attributes		cifs-users-and-group-local-user-membership optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cifs-users-and-group-local-user-membership	A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-user-membership object. All cifs-users-and-group-local-user-membership objects matching this query up to

		optional	'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cifs-users-and-group-local-user-membership[] optional	The list of attributes of cifs-users-and-group-local-user-membership objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cifs-users-and-group-local-user-membership objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-charmap-get

[top]

Return charmap information for a specified volume.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to list the charmap information.

Output Name	Range	Type	Description
charmap		string optional	A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively.

Errno	Description
EVOLUMEDOESNOTEXIST	
EOPNOTSUPPORTED	
EVOLUMEBUSY	

volume-charmap-set

[top]

Set the character mapping on a volume

Input Name	Range	Type	Description
charmap		string optional	A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively.
volume		volume-	The name of the volume for which character mapping needs to be

		name	applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **anonymous-restriction-level** [top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

Element definition: **auth-mechanism** [top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

Element definition: **cifs-access-perms** [top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

Element definition: **cifs-branchcache**

[top]

CIFS BranchCache configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hash-store-max-size		size optional	Maximum size the hash store can grow to. Attributes: optional-for-create, modifiable
hash-store-path		string optional	Path to the directory where hash files are stored. Attributes: required-for-create, modifiable
operating-mode		string optional	The mode in which the BranchCache service will operate. Attributes: optional-for-create, modifiable
server-key		string optional	BranchCache server key. Attributes: optional-for-create, modifiable
versions		cifs-bc-version-control[] optional	Versions of the BranchCache protocol that are supported. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-ca-protection**

[top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.

"Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

Element definition: **cifs-cache-settings-info**

[top]

Contains CIFS name and SID cache configuration information of a SVM When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
is-propagation-enabled		boolean optional	Is Propagation Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-character-mapping**

[top]

Display a character mapping When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
		string[]	The mapping for invalid characters in the format XX:XXXX. Attributes:

mapping		optional	required-for-create, modifiable
volume		string optional	The name of the volume for which character mapping needs to be applied. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Name on which the volume exists. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-check-info**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cifs-domain-ip-addr		string optional	The IP address of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable
cifs-domain-name		string optional	The FQDN of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable
cifs-netbios-name		string optional	The NetBIOS Name of the CIFS Server. Attributes: non-creatable, non-modifiable
cifs-server-site		string optional	The Site CIFS Server Belongs to. Attributes: non-creatable, non-modifiable
cifs-server-status		string optional	CIFS Server Status. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The Node on Which the Command Will Be Run. Attributes: key, non-creatable, non-modifiable
status		service-state optional	Status of NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable Possible values: • "down" , • "up"
status-details		string optional	Time for Establishing NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable
vserver-name		string optional	Vserver For Checking the CIFS Server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-connection**

[top]

Displays established CIFS connections When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-id	**[0..2^32-1]**	integer optional	The unique identifier for the connection. Attributes: key, optional-for-create, non-modifiable
lif-ip		ip-address optional	The data lif that is used to establish the connection. Attributes: non-creatable, non-modifiable
network-context-id	**[0..2^32-1]**	integer optional	The network context id associated with the connection. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node on which the connection listing is done. Attributes: key, required-for-create, non-modifiable
session-id	**[0..2^64-1]**	integer[] optional	The sessions that are associated with this connection. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name on which the connection listing is done. Attributes: key, required-for-create, non-modifiable
workstation-ip		ip-address optional	The ip address of the workstation from which the connection is established. Attributes: non-creatable, non-modifiable
workstation-port	**[0..2^32-1]**	integer optional	The TCP port of the workstation through which the connection is established. Attributes: non-creatable, non-modifiable

Element definition: **cifs-dialects**

[top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

Element definition: **cifs-domain-discovered-servers**

[top]

List of servers discovered by the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		inet-address optional	The IP address of the server that was discovered. Attributes: key, non-creatable, non-modifiable
dc-functional-level		cifs-domain-discovered-server-funclvl optional	DC Functional Level Attributes: non-creatable, non-modifiable Possible values: • "win2000" - WIN2000, • "unknown" - The DC functionality level is unknown, • "win2003" - WIN2003, • "win2008" - WIN2008, • "win2008r2" - WIN2008R2, • "win2012" - WIN2012, • "win2012r2" - WIN2012R2, • "win2016" - WIN2016, • "winthreshold" - WINTHRESHOLD
domain		string optional	The Active Directory domain that the discovered server is a member of. Attributes: key, non-creatable, non-modifiable
is-dc-read-only		boolean optional	Is DC Read Only Attributes: non-creatable, non-modifiable
name		string optional	The hostname of the server that was discovered. Attributes: key, non-creatable, non-modifiable
node		node-name optional	The name of the node on which server discovery was done. Attributes: key, non-creatable, non-modifiable
prefer-type		cifs-domain-server-prefer-type optional	The preference level of the server that was discovered. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The preference level of this server is unknown., • "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers., • "favored" - This server was marked as favored by the server discovery process by virtue of site membership., • "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it.
server-type		cifs-domain-discovered-server-type optional	The type of the server that was discovered. Attributes: key, non-creatable, non-modifiable Possible values: • "unknown" - The server type is not known, • "kerberos" - Kerberos server, • "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server, • "ms_dc" - Microsoft Domain Controller, • "ldap" - Lightweight Directory Access Protocol (LDAP) server
		cifs-domain-	The status of the connection to the server that was discovered. Attributes: non-creatable, non-modifiable Possible values: • "ok" - The connection to this server is usable.,

status		discovered-server-status optional	• "unavailable" - This server is currently unavailable for use., • "slow" - The connection to this server is usable but slow., • "expired" - The connection to this server has expired., • "undetermined" - A connection to this server has not been attempted., • "unreachable" - This server is currently unreachable.
vserver		vserver-name optional	The name of the Vserver which scopes the discovered servers. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-name-mapping-search**

[top]

List of trusted domains, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
trusted-domains		realm-name[] optional	The list of trusted domains used for name-mapping. Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-password-schedule**

[top]

CIFS domain password schedule parameters When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-schedule-enabled		boolean optional	Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled. Attributes: non-creatable, modifiable
schedule-day-of-week		cron-day-of-week	This field specifies the day of week when the scheduled domain account password change occurs Attributes: non-creatable, modifiable

		optional	
schedule-randomized-minute	**[1..180]**	integer optional	This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day Attributes: non-creatable, modifiable
schedule-time-of-day		time-of-day optional	This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts Attributes: non-creatable, modifiable
schedule-weekly-interval	**[1..52]**	integer optional	This field specifies the number of weeks after which the scheduled domain account password change must occur Attributes: non-creatable, modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-preferred-dc**

[top]

List of preferred domain controllers associated with an Active Directory domain, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
domain		string optional	The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. Attributes: key, required-for-create, non-modifiable
preferred-dc		inet-address[] optional	The list of preferred domain controller IP addresses. Attributes: required-for-create, non-modifiable
vserver		vserver-name optional	Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,
- "none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

Element definition: **cifs-domain-server-discovery-mode-info**

[top]

CIFS domain server discovery mode When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
mode		cifs-domain-server-discovery-mode optional	Server discovery mode Attributes: required-for-create, modifiable Possible values: • "all" - Discover all the servers in the domain., • "site" - Discover the servers local to the site., • "none" - Discover nothing. Expect admins to configure pref-dcs.
vserver		vserver-name optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-domain-trusts**

[top]

List of trusted domains discovered. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
home-domain		realm-name optional	The fully-qualified domain name of the Active Directory domain the CIFS server is joined to. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node on which discovery was done. Attributes: key, non-creatable, non-modifiable
trusted-domain		realm-name[] optional	A domain that has a trust relationship with the home domain. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The name of the Vserver which scopes the discovered trusted domains. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

Element definition: **cifs-functional-level**

[top]

Possible values are:

- "windows_2000"
- "windows_2003_with_mixed_domain"
- "windows_2003"
- "windows_2008"
- "windows_2008R2"
- "windows_8"

[none]

Element definition: **cifs-home-directory**

[top]

Handle cifs home directory related configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-home-dirs-access-for-admin-enabled		boolean optional	Is home directory access is enabled to admin. Default value is true. Attributes: optional-for-create, modifiable
is-home-dirs-access-for-public-enabled		boolean optional	Is home directory access is enabled to public. Default value is false. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-home-directory-search-path**

[top]

This is a list of CIFS Home Directory search paths. When a CIFS client connects to a home directory share, these paths are searched in the order indicated by the 'position' field to find the user's home directory. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
path		string optional	The file system path that will be searched for finding a CIFS user's home directory. Attributes: key, required-for-create, non-modifiable
position	**[1..1024]**	integer optional	The position of this entry in the list of paths that will be searched for finding a CIFS user's home directory. Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-group**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	The description of the local group Attributes: optional-for-create, modifiable
group-name		cifs-name optional	The name of the local group Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		cifs-name optional	The name of the local group Attributes: key, non-creatable, non-modifiable
member		cifs-name optional	The member of a local group Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-user**

[top]

List of local users, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	The description of the local user Attributes: optional-for-create, modifiable
full-name		string optional	Full name of the local user Attributes: optional-for-create, modifiable
is-account-disabled		boolean optional	The user account is disabled Attributes: optional-for-create, modifiable
user-name		cifs-name optional	The name of the local user Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
membership		cifs-name optional	The membership of the local user Attributes: non-creatable, non-modifiable
user-name		cifs-name optional	The name of the local user Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-name**

[top]

[none]

Element definition: **cifs-nbtstat**

[top]

Display NetBIOS Statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
nbt-mode		string optional	Mode in which the NetBIOS Name Service is configured. Possible values: 'p' - Point to Point, 'h' - Hybrid, 'm' - Mixed or 'b' - Broadcast. Attributes: non-creatable, non-modifiable
nbt-name-state		string optional	Registration State of NetBIOS Name. Possible values: 'must_register', 'must_unregister', 'wins', 'broadcast', 'name_released', 'wins_conflict', 'broadcast_conflict. Attributes: non-creatable, non-modifiable
nbt-scope		string optional	Scope is used as a name for the set of NetBIOS nodes that participate in an NBT virtual LAN. Attributes: non-creatable, non-modifiable
netbios-name		string optional	NetBIOS Name. Attributes: key, non-creatable, non-modifiable
netbios-suffix		string optional	A NetBIOS suffix is the 16th character of the 16-character NetBIOS name. The NetBIOS suffix is used by Microsoft Networking software to identify functionality installed on the registered device. Attributes: key, non-creatable, non-modifiable
		string	The name of the node on which nbtstat was done. Attributes: key,

node		optional	non-creatable, non-modifiable
registered-addresses		ip-address[] optional	List of interface IP Addresses for which the NetBIOS Name is registered. Attributes: non-creatable, non-modifiable
registered-type		string optional	Name registration type. Possible values: 'registered', 'active', 'permanent', 'group'. Attributes: non-creatable, non-modifiable
registration-time-left-minutes	**[0..2^32-1]**	integer optional	Time left in minutes for a name registered with WINS. Attributes: non-creatable, non-modifiable
vserver		string optional	The Vserver name on which nbtstat was done. Attributes: key, non-creatable, non-modifiable
wins-entries		wins-entry-info[] optional	Windows Internet Name Server (WINS) information

Element definition: **cifs-options**

[top]

The CIFS specific tunables that can be set on a Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-session-timeout	**[0..2^32-1]**	integer optional	This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected Attributes: optional-for-create, modifiable
default-unix-group		string optional	The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules. Attributes: optional-for-create, modifiable
default-unix-user		string optional	The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules. Attributes: optional-for-create, modifiable
file-system-sector-size		cifs-filesystem-sector-size optional	This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Attributes: optional-for-create, modifiable Possible values: • "512" - Reported file system sector size to SMB clients is 512 bytes, • "4096" - Reported file system sector size to SMB clients is 4096 bytes
grant-unix-group-perms-to-others		boolean optional	This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is

			false. Attributes: optional-for-create, modifiable
guest-unix-user		string optional	This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user. Attributes: optional-for-create, modifiable
is-admin-users-mapped-to-root-enabled		boolean optional	This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-advanced-sparse-file-support-enabled		boolean optional	This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server. Attributes: optional-for-create, modifiable
is-advertise-dfs-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-client-dup-detection-enabled		boolean optional	This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-client-version-reporting-enabled		boolean optional	This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-copy-offload-direct-copy-enabled		boolean optional	This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true. Attributes: optional-for-create, modifiable
is-copy-offload-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-dac-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-exportpolicy-enabled		boolean optional	This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-fake-open-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-fsctl-file-level-trim-enabled		boolean optional	This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-hide-dotfiles-enabled		boolean optional	This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-inherit-			

modebits-with-nfsv4acl-enabled		boolean optional	This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-large-mtu-enabled		boolean optional	This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-local-auth-enabled		boolean optional	This optional parameter specifies whether CIFS local users can authenticate. Attributes: optional-for-create, modifiable
is-local-users-and-groups-enabled		boolean optional	This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster. Attributes: optional-for-create, modifiable
is-multichannel-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-nbns-enabled		boolean optional	This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-netbios-over-tcp-enabled		boolean optional	This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-path-component-cache-enabled		boolean optional	This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-path-component-cache-symlink-enabled		boolean optional	This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-read-only-delete-enabled		enable optional	This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Attributes: optional-for-create, modifiable Possible values: • "enabled" , • "disabled"
is-referral-enabled		boolean optional	This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-search-short-names-enabled		boolean optional	This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-shadowcopy-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable

is-share-enum-permission-check-enabled		boolean optional	This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares. Attributes: optional-for-create, modifiable
is-smb1-enabled		boolean optional	(DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false. Attributes: optional-for-create, modifiable
is-smb2-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-smb3-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-smb31-enabled		boolean optional	This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable
is-trusted-domain-enum-search-enabled		boolean optional	This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user. Attributes: optional-for-create, modifiable
is-unix-extensions-enabled		boolean optional	This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false. Attributes: optional-for-create, modifiable
is-unix-nt-acl-enabled		boolean optional	This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style. Attributes: optional-for-create, modifiable
is-use-junctions-as-reparse-points-enabled		boolean optional	This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients. Attributes: optional-for-create, modifiable
map-sid-to-uid-on-set-owner		boolean optional	This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'. Attributes: optional-for-create, modifiable
max-connections-per-session	**[2..1024]**	integer optional	This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32. Attributes: optional-for-create, modifiable
max-credits	**[2..8192]**	integer optional	This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128. Attributes: optional-for-create, modifiable
max-file-write-zero-	**[2^12..2^25]**	integer	This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data

length		optional	lengths between 4 KB and 32 MB. The default value for this option is 32 MB. Attributes: optional-for-create, modifiable
max-lifs-per-session	**[1..256]**	integer optional	This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256. Attributes: optional-for-create, modifiable
max-mpx	**[2..65535]**	integer optional	This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255. Attributes: optional-for-create, modifiable
max-opens-same-file-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000. Attributes: optional-for-create, modifiable
max-same-tree-connect-per-session	**[0..2^32-1]**	integer optional	This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The default value for this option is 5000. Attributes: optional-for-create, modifiable
max-same-user-sessions-per-connection	**[0..2^32-1]**	integer optional	This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500. Attributes: optional-for-create, modifiable
max-watches-set-per-tree	**[0..2^32-1]**	integer optional	This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500. Attributes: optional-for-create, modifiable
path-component-cache-entry-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable
path-component-cache-max-entries	**[1000..1000000]**	integer optional	This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000. Attributes: optional-for-create, modifiable
path-component-cache-max-session-token-size	**[500..10000]**	integer optional	This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000. Attributes: optional-for-create, modifiable
path-component-cache-symlink-exp-time	**[5000..3600000]**	integer optional	This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable
read-grants-execute		enable optional	On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Attributes: optional-for-create, modifiable Possible values: • "enabled" , • "disabled"
			This optional parameter specifies what level of access will a non authenticated user get Attributes: optional-for-create, modifiable Possible values:

restrict-anonymous		anonymous-restriction-level optional	• "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
shadowcopy-dir-depth	**[0..2^32-1]**	integer optional	This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable
smb1-max-buffer-size	**[4356..65535]**	integer optional	This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable
widelink-as-reparse-point-versions		cifs-dialects[] optional	This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Attributes: optional-for-create, modifiable Possible values: • "smb1" - SMB 1.0, • "smb2" - SMB 2.0, • "smb2_1" - SMB 2.1, • "smb3" - SMB 3.0, • "smb3_1" - SMB 3.1
win-name-for-null-user		string optional	This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session. Attributes: optional-for-create, modifiable
wins-servers		inet-address[] optional	List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses. Attributes: optional-for-create, modifiable

Element definition: **cifs-preferred-dc-check-info**

[top]

Basic configuration information for the Preferred DC. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
		string[]	

dc-ip-addr		optional	DC Address Attributes: key, non-creatable, non-modifiable
domain-name		string[] optional	Domain Name Attributes: non-creatable, non-modifiable
status		service-state[] optional	DC Status Attributes: non-creatable, non-modifiable Possible values: • "down" , • "up"
status-details		string[] optional	Status Details Attributes: non-creatable, non-modifiable
vserver-name		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-privilege**

[top]

List of privileges assigned to local or Active Directory users or groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
privileges		cifs-privilege-entries[] optional	The privileges associated with a local or Active Directory user or group Attributes: non-creatable, non-modifiable Possible values: • "setcbprivilege" - Act as part of the operating system, • "sebackupprivilege" - Back up files and directories, overriding any ACLs, • "serestoreprivilege" - Restore files and directories, overriding any ACLs, • "setakeownershipprivilege" - Take ownership of files or other objects, • "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log, • "sechangenotifyprivilege" - Bypass traverse checking
user-or-group-name		cifs-name optional	The name of the local or Active Directory user or group Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-privilege-entries**

[top]

Privilege Possible values:

- "setcbprivilege" - Act as part of the operating system,
- "sebackupprivilege" - Back up files and directories, overriding any ACLs,
- "serestoreprivilege" - Restore files and directories, overriding any ACLs,
- "setakeownershipprivilege" - Take ownership of files or other objects,
- "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log,
- "sechangenotifyprivilege" - Bypass traverse checking

[none]

Element definition: **cifs-security**

[top]

CIFS security tunable parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
advertised-enc-types		cifskrbenctypes[] optional	This parameter determines which encryption types will be advertised to Kerberos. By default AES-256, AES-128, RC4 and DES will be advertised. Attributes: non-creatable, modifiable Possible values: • "des" , • "rc4" , • "aes_128" , • "aes_256"
aes-enabled-for-netlogon-channel		boolean optional	This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false. Attributes: non-creatable, modifiable
encryption-required-for-dc-connections		boolean optional	This parameter determines if encryption is required for connections to domain controllers. Attributes: non-creatable, modifiable
is-aes-encryption-enabled		boolean optional	(DEPRECATED) This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is true. Attributes: non-creatable, modifiable
is-password-complexity-required		boolean optional	This parameter determines whether password complexity is required for local users. By default this option is true. Attributes: non-creatable, modifiable
is-signing-required		boolean optional	This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable
is-smb-		boolean	This parameter determines whether SMB encryption is

encryption-required		optional	required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable
kerberos-clock-skew	**[0..2^32-1]**	integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. Attributes: non-creatable, modifiable
kerberos-kdc-timeout	**[1..23]**	integer optional	This parameter determines the timeout value in seconds for KDC connections. Attributes: non-creatable, modifiable
kerberos-renew-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in days for which a ticket can be renewed. Attributes: non-creatable, modifiable
kerberos-ticket-age	**[0..2^32-1]**	integer optional	This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication. Attributes: non-creatable, modifiable
lm-compatibility-level		lm-compatibility-level optional	This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Attributes: non-creatable, modifiable Possible values: • "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos, • "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos, • "ntlmv2_krb" - Accepts NTLMv2 and Kerberos, • "krb" - Accepts Kerberos only
referral-enabled-for-ad-ldap		boolean optional	This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable
session-security-for-ad-ldap		ldap-security optional	This parameter determines the level of security for LDAP communications. By default this option is none. Attributes: non-creatable, modifiable Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
smb1-enabled-for-dc-connections		system-default-bool optional	(DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values: • "false" , • "true" , • "system_default"
smb2-enabled-for-dc-connections		system-default-bool optional	This parameter determines if SMB version 2 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values: • "false" , • "true" , • "system_default"
try-channel-binding-for-ad-ldap		boolean optional	This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true. Attributes: non-creatable, modifiable
use-ldaps-for-ad-ldap		boolean optional	This parameter determines whether to use LDAPS(port 636) for Secure Active Directory LDAP connections. By default this option is false. Attributes: non-creatable, modifiable

use-start-tls-for-ad-ldap		boolean optional	This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-server-config**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-status		service-state optional	CIFS Server Administrative Status. Attributes: optional-for-create, modifiable Possible values: • "down" , • "up"
auth-style		cifs-auth-style optional	The authentication style to be used for CIFS clients connecting to this CIFS server. Attributes: non-creatable, non-modifiable Possible values: • "domain" - DOMAIN, • "workgroup" - WORKGROUP, • "realm" - KERBEROS REALM
cifs-server		netbios-name optional	The NetBIOS name of the CIFS server. Attributes: required-for-create, modifiable
comment		string optional	CIFS Server Description. Attributes: optional-for-create, modifiable
default-site		string optional	The default site used by LIFs that do not have a site membership. Attributes: optional-for-create, modifiable
domain		string optional	The Fully Qualified Domain Name of the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable
domain-workgroup		domain-name optional	The NetBIOS name of the domain or workgroup this CIFS server belongs to. Attributes: non-creatable, non-modifiable
netbios-aliases		netbios-name[] optional	List of NetBIOS Aliases Attributes: optional-for-create, non-modifiable
organizational-unit		string optional	The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable
realm		string optional	The Kerberos realm this CIFS server belongs to. Attributes: optional-for-create, modifiable
vserver		string	Vserver containing the CIFS server. Attributes: key, non-creatable,

		optional	non-modifiable
workgroup		netbios-name optional	The name of the workgroup this CIFS server belongs to. Attributes: optional-for-create, modifiable

Element definition: **cifs-session**

[top]

Displays the established CIFS sessions When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	The ip address of the workstation from which the session is opened. Attributes: non-creatable, non-modifiable
auth-mechanism		auth-mechanism optional	The authentication mechanism used to establish the session. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "ntlmv1" , • "ntlmv2" , • "kerberos" , • "anonymous"
connected-time		elapsed-time-ext optional	The time duration since the session was established. Attributes: non-creatable, non-modifiable
connection-count	**[0..2^32-1]**	integer optional	The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable
connection-id	**[0..2^32-1]**	integer optional	The connection that is used to establish the session. Attributes: key, optional-for-create, non-modifiable
continuously-available		cifs-ca-protection optional	The type of continuous avalability protection provided to the session. Attributes: non-creatable, non-modifiable Possible values: • "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available., • "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available., • "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.
files	**[0..2^64-1]**	integer optional	The number of the regular files that are opened under the session. Attributes: non-creatable, non-modifiable
idle-time		elapsed-time-ext	The time duration since there was last activity on the session.

		optional	Attributes: non-creatable, non-modifiable
is-large-mtu-enabled		boolean optional	This optional parameter specifies the status of the Large MTU over the CIFS session. Attributes: non-creatable, non-modifiable
is-session-signed		boolean optional	Displays if a CIFS session is SMB Signed. If true, the CIFS session is signed. If false, the CIFS session is not signed. Attributes: non-creatable, non-modifiable
lif-address		ip-address optional	The data lif that is used to establish the session. Attributes: non-creatable, non-modifiable
netbios-name		string optional	Displays the NetBIOS name client used for connecting to the share. Attributes: non-creatable, non-modifiable
node		string optional	The name of the node on which the session listing is done. Attributes: key, required-for-create, non-modifiable
other	**[0..2^64-1]**	integer optional	The number of the special files that are opened under the session. Attributes: non-creatable, non-modifiable
protocol-version		cifs-dialects optional	The CIFS protocol version that is used to establish the session. Attributes: non-creatable, non-modifiable Possible values: • "smb1" - SMB 1.0, • "smb2" - SMB 2.0, • "smb2_1" - SMB 2.1, • "smb3" - SMB 3.0, • "smb3_1" - SMB 3.1
session-id	**[0..2^64-1]**	integer optional	The unique identifier for the session. Attributes: key, optional-for-create, non-modifiable
shares	**[0..2^32-1]**	integer optional	The number of the CIFS shares that are opened under the session. Attributes: non-creatable, non-modifiable
smb-encryption-status		smb-encryption optional	Displays the status of SMB encryption that is happening over the CIFS session. Attributes: non-creatable, non-modifiable Possible values: • "unencrypted" - CIFS session is not encrypted., • "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session., • "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.
unix-user		string optional	The name of the UNIX user for which the session is established. Attributes: non-creatable, non-modifiable
user-type		string optional	The Classification of the Authenticated user. Attributes: non-creatable, non-modifiable Possible values: • "local_user" , • "domain_user" , • "guest_user" , • "anonymous_user"
vserver		string optional	The Vserver name on which the session listing is done. Attributes: key, non-creatable, non-modifiable
win-unix-creds		string optional	Display the Windows and UNIX credentials. This field is not returned by default and must be requested via desired-attributes. Attributes: non-creatable, non-modifiable
windows-user		string optional	The name of the CIFS user for which the session is established. Attributes: non-creatable, non-modifiable

Element definition: **cifs-session-file**

[top]

Displays the opened CIFS files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-count	**[0..2^32-1]**	integer optional	The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable
connection-id	**[0..2^32-1]**	integer optional	The connection that is used to open the file. Attributes: key, optional-for-create, non-modifiable
continuously-available		cifs-ca-protection optional	The type of continuous availability protection provided to the file. Attributes: non-creatable, non-modifiable Possible values: • "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available., • "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available., • "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.
file-id	**[0..2^64-1]**	integer optional	The unique identifier for the opened file. Attributes: key, optional-for-create, non-modifiable
file-type		cifs-file-type optional	The type of opened file. Attributes: non-creatable, non-modifiable Possible values: • "regular" , • "symlink" , • "stream" , • "directory"
flexgroup-msid	**[0..2^64-1]**	integer optional	The FlexGroup MSID of the volume on which the file resides. Attributes: non-creatable, non-modifiable
hosting-aggregate		aggr-name optional	The name of the aggregate on which the file resides. Attributes: non-creatable, non-modifiable
hosting-volume		volume-name optional	The name of the volume on which the file resides. Attributes: non-creatable, non-modifiable
node		string optional	The name of the node on which the file listing is done. Attributes: key, required-for-create, non-modifiable
open-mode		cifs-open-mode	The mode in which the file is opened. Attributes: non-creatable, non-modifiable Possible values: • "r" - Read,

		optional	"w" - Write, • "d" - Delete
path		string optional	The path of the file. Attributes: non-creatable, non-modifiable
range-locks	**[0..2^32-1]**	integer optional	The number of range locks granted on the file. Attributes: non-creatable, non-modifiable
reconnected		string optional	The state that represents if the file was opened after network disconnect. Attributes: non-creatable, non-modifiable
session-id	**[0..2^64-1]**	integer optional	The session under which file is opened. Attributes: key, optional-for-create, non-modifiable
share		cifs-share-name optional	The share name where the file resides. Attributes: non-creatable, non-modifiable
share-mode		cifs-open-mode optional	The share mode used to open the file. Attributes: non-creatable, non-modifiable Possible values: • "r" - Read, • "w" - Write, • "d" - Delete
vserver		string optional	The Vserver name on which the file listing is done. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-session-info**

[top]

Information about a single cifs session.

Name	Range	Type	Description
change-notifies		integer	Number of active ChangeNotify requests.
dirs		integer	Number of open directories.
files		integer	Number of open files.
host-ip		ip-address	IP address, in dotted-decimal format, of the CIFS client.
host-name		string optional	NetBios name of the CIFS client. This may be unavailable in certain situations. In such cases, the ONTAPI element 'host-ip' alone provides identity of the host.
shares		integer	Number of open shares.
user		string optional	Name of the user.
volumes-list		volumes-list-info[]	List of volumes being accessed during the session.

Element definition: **cifs-setup-ou**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

Element definition: **cifs-setup-site**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

Element definition: **cifs-share**

[top]

CIFS share configuration. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
acl		string[] optional	This string list gives the applicable Access Control list for the CIFS share. Each list entry is a '/' separated pair of the User or Group name and the effective permissions. The permission could be 'Full Control', Change', 'Read' or 'No access'. e.g.: If the group is 'Everyone' and the effective permission for this group is 'Change', the entry would be 'Everyone / Change'. Attributes: non-creatable, non-modifiable
attribute-cache-ttl	**[0..2^32-1]**	integer optional	The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. Attributes: optional-for-create, modifiable
cifs-server		string optional	The NetBIOS name of the CIFS server that owns this share. Attributes: non-creatable, non-modifiable
comment		string optional	This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. Attributes: optional-for-create, modifiable
dir-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for-

			create, modifiable
file-umask	**[0..777]**	integer optional	The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for-create, modifiable
force-group-for-create		string optional	This option specifies a predefined UNIX group name for which all files created by CIFS users in that share will be assigned group owenership to. Attributes: optional-for-create, modifiable
max-connections-per-share	**[1..2^32-1]**	integer optional	The maximum number of simultaneous connections allowed to the share. Attributes: optional-for-create, modifiable
offline-files-mode		string optional	Mode of the offline file for the CIFS share. The default value is manual. Possible values: • "none" - Clients are not permitted to cache files for offline access., • "manual" - Clients may cache files that are explicitly selected by the user for offline use., • "documents" - Clients may automatically cache files that are used by the user for offline access., • "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available.
path		string optional	The file system path that is shared through this CIFS share. The path is the full, user visible path relative to the vserver root, and it might be crossing junction mount points. The path is in UTF8 and uses forward slash as directory separator. Attributes: required-for-create, modifiable
share-name		string optional	The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?"* Attributes: key, required-for-create, non-modifiable
			The list of properties for this CIFS share. Attributes: optional-for-create, modifiable Possible values: • "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share., • "browsable" - This specifies that the share can be browsed by Windows clients., • "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients., • "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify., • "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface., • "attributecache" - This specifies that connections through

share-properties		cifs-share-properties[] optional	this share are caching attributes for a short time to improve performance. • "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. • "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups. • "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share. • "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. • "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers. • "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share. • "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.
symlink-properties		cifs-share-symlink-properties[] optional	This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Attributes: optional-for-create, modifiable Possible values: • "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write, • "hide" (DEPRECATED) Hide both symlinks and widelinks, • "read_only" (DEPRECATED) Enable symlinks for read-only, • "symlinks" Enable symlinks only for read-write, DFS is not advertised, • "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised, • "disable" Disable both local symlinks and wide links, DFS is not advertised • "no_strict_security" Allow clients to follow symlinks beyond share boundaries
volume		string optional	The name of the volume where the root of the CIFS share resides.
			Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values: • "no_scan" - Virus scans are never triggered for accesses to

vscan-fileop-profile		vscan-fileop-profile optional	this share, • "standard" - Virus scans can be triggered by open, close, and rename operations, • "strict" - Virus scans can be triggered by open, read, close, and rename operations, • "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.
vserver		string optional	The name of the Vserver. Attributes: key, required-for-create, non-modifiable

Element definition: **cifs-share-access-control**

[top]

The permissions that users and groups have to a CIFS share. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
permission		cifs-access-perms optional	The access rights that the user or group has on the defined CIFS share. Attributes: required-for-create, modifiable Possible values: • "no_access" - No access, • "read" - Read, • "change" - Change, • "full_control" - Full Control, • "custom" - Custom
share		string optional	The CIFS share for which the permissions are defined. Attributes: key, required-for-create, non-modifiable
user-group-type		string optional	The type of user for which ACL is configured. Default value is windows. Attributes: key, optional-for-create, non-modifiable Possible values: • "windows" - Windows User or Group., • "unix_user" - Unix User., • "unix_group" - Unix Group.
user-or-group		string optional	The user or group name for which the permissions are listed. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable
winsid		windows-sid optional	The Windows SID for the user or group for which the permission is defined. Attributes: optional-for-create, modifiable

[top]

Element definition: **cifs-share-acl-info**

Information about single share.

Name	Range	Type	Description
share-name		string	Name of the share.
user-acl-info		access-rights-info[]	List of users or Unix groups that have access to this share.

Element definition: **cifs-share-info**

[top]

Information about a single cifs share.

Name	Range	Type	Description
caching		string optional	String specifying the type of caching: "no_caching", "auto_document_caching", "auto_program_caching" and "manual_caching".
description		string optional	description of the share.
dir-umask		integer optional	File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. This mask overrides one set with "umask".
file-umask		integer optional	File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. This mask overrides one set with "umask".
forcegroup		string optional	name of the group to which files to be created in the share belong to.
is-access-based-enum		boolean optional	If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. Its value is returned only if it is non-default value. Its default value is false.
is-browse		boolean optional	if true, this share can be browsed. Its values is returned only if it is non-default value. Its default value is true.
is-namespace-caching-allowed		boolean optional	If true, namespace caching is enabled on the share. If false or not specified, namespace caching is disabled. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance.
is-symlink-strict-security		boolean optional	If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. Its value is returned only if it is non-default value. Its default value is true.
is-vol-offline		boolean optional	If true, volume is offline and the shares are not available. Its value is returned only if it is non-default value. Its default value is false.
is-vscan		boolean optional	If true or not specified, virus scan is done when clients open files on this share. Its value is returned only if it is non-default value. Its default value is true.
is-vscanread		boolean optional	If true or not specified, virus scan is done when clients open files on this share for read access. Its value is returned only if it is non-default value. Its defalut value is true.
is-widelink		boolean	If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. Its value is returned only if it is non-default

		optional	value. Its default value is false.
maxusers		integer optional	max no. of simultaneous connections to the share.
mount-point		string	mount point of the share.
share-name		string	name of the cifs share.
umask		integer optional	File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of newly created files and directories. This field is ignored when both dir-umask and file-umask are present.

Element definition: **cifs-share-properties**

[top]

The list of properties on a CIFS share. Possible values:

- "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,
- "browsable" - This specifies that the share can be browsed by Windows clients.,
- "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,
- "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,
- "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface.,
- "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.
- "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
- "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback.
- "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.
- "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
- "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
- "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.
- "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.

[none]

Element definition: **cifs-share-symlink-properties**

[top]

enable|hide|read-only|symlinks|symlinks-and-widelinks|disable|no-strict-security Possible values:

- "enable" - (DEPRECATED)-Enable both local symlinks and wide links for read-write,
- "hide" - (DEPRECATED)-Hide both symlinks and wide links,
- "read_only" - (DEPRECATED)-Enable symlinks for read-only,
- "symlinks" - Enable symlinks only for read-write, DFS is not advertised,
- "symlinks_and_widelinks" - Enable both local symlinks and wide links, DFS is advertised,
- "disable" - Disable both local symlinks and wide links, DFS is not advertised,
- "no_strict_security" - Allow clients to follow symlinks outside share boundaries

[none]

Element definition: **cifs-symlink**

[top]

CIFS symbolic link path mapping configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cifs-path		string optional	This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. Attributes: required-for-create, modifiable
cifs-server		string optional	This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. Attributes: optional-for-create, modifiable
home-directory		boolean optional	This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. Attributes: optional-for-create, modifiable
locality		cifs-symlink-locality optional	This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Attributes: optional-for-create, modifiable Possible values: • "local" - Share on This VServer, • "widelink" - Share on Another CIFS Server, • "freelink" - Anywhere on This VServer (OBSOLETE)

share-name		string optional	This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. Attributes: optional-for-create, modifiable
unix-path		string optional	This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-symlink-locality**

[top]

Locality of the destination where this symbolic link points. Possible values:

- "local" - Share on This VServer,
- "widelink" - Share on Another CIFS Server,
- "freelink" - Anywhere on This VServer (OBSOLETE)

[none]

Element definition: **cifs-top-info**

[top]

Information about a single cifs top.

Name	Range	Type	Description
ops-per-sec		integer	The number of operations of any type per second.
read-ops		integer	The number of read requests.
read-size		integer	The size in kbytes per second of data of read requests.
suspicious-per-sec		integer	The number of "suspicious" events per second due to the following conditions: ACCESS-DENIED returned for FindFirst ACCESS-DENIED returned for Open/CreateFile ACCESS-DENIED returned for DeleteFile SUCCESS returned for DeleteFile SUCCESS returned for TruncateFile
user-info		string	Information on the client with its IP address and user account.
write-ops		integer	The number of write requests.
write-size		integer	The size in kbytes per second of data of write requests.

Element definition: **cifs-user-home-directory-path**

[top]

This commands finds the home directory of a user specified in the command in all the home directory search path configured. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes

specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
path		string optional	The path of home directory for the specified user name. Attributes: non-creatable, non-modifiable
share-name		string optional	The expanded share name for the user. Attributes: non-creatable, non-modifiable
username		string optional	Output User Name Attributes: non-creatable, non-modifiable
vserver		vserverid optional	The name of the Vserver in which home directory for a user has to be searched. Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-users-and-group-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		cifs-name optional	The name of the local group Attributes: key, non-creatable, non-modifiable
member		cifs-name[] optional	The member of a local group Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifs-users-and-group-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
membership		cifs-name[] optional	The membership of the local user Attributes: non-creatable, non-modifiable
user-name		cifs-name optional	The name of the local user Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cifskrbenctypes**

[top]

CIFS Kerberos Encryption Type Possible values:

- "des" ,
- "rc4" ,
- "aes_128" ,
- "aes_256"

[none]

Element definition: **connection-info**

[top]

Structure containing information on the connection.

Name	Range	Type	Description
connected-address		address-info[] optional	An address list of currently connected servers.
favored-address		address-info[] optional	An address list of favored servers.
other-address		address-info[] optional	An address list of other servers.
preferred-address		address-info[] optional	An address list of preferred servers.

Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

Element definition: **homedir-path-info** [top]

path to user home directory paths Unix style path to user home directories, example: /vol/vol1/users1 The paths are listed in the same order that the filer will use to evaluate whether a user has a cifs home directory.

[none]

Element definition: **inet-address** [top]

Internet Address

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **ldap-security** [top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

Element definition: **lm-compatibility-level** [top]

LM compatibility level. Possible values:

- "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,
- "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,
- "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,
- "krb" - Accepts Kerberos only

[none]

Element definition: **nbalias-name-info**

[top]

NetBIOS alias for the filer

[none]

Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **path-error-info**

[top]

Error description

Name	Range	Type	Description
error-path		string	Homedir path, if any, which had the error. This value is set to NULL if there is no path associated with the error.
error-path-desc		string	A description of the error.

Element definition: **realm-name**

[top]

[none]

Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **smb-encryption**

[top]

The list of possible values for SMB Encryption status. Possible values:

- "unencrypted" - CIFS session is not encrypted.
- "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session.
- "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.

[none]

Element definition: **system-default-bool**

[top]

false|true|system-default Possible values:

- "false" ,
- "true" ,
- "system_default"

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **time-of-day**

[top]

Time of day in HH::MM::SS

[none]

Element definition: **uri**

[top]

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vscan-fileop-profile**

[top]

Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values:

- "no_scan" - Virus scans are never triggered for accesses to this share,
- "standard" - Virus scans can be triggered by open, close, and rename operations,
- "strict" - Virus scans can be triggered by open, read, close, and rename operations,
- "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.

[none]

Element definition: **windows-sid**

[top]

Unique Windows Security Identifier that identifies a User or Group or Machine account.

[none]

Element definition: **access-rights-info**

[top]

Access rights of single user or single Unix group.

Name	Range	Type	Description
access-rights		string	User access rights. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control".
unix-group-name		string optional	Name of the Unix group.
user-name		string optional	Name of the user.

Element definition: **address-info**

[top]

Structure containing address information of servers.

Name	Range	Type	Description
has-nossl		boolean optional	If true, the protocol SSL is not supported.
hostname		string optional	The resolved hostname of the IP address.
ip-address		string optional	The IP address in canonical form.
is-broken		boolean optional	If true, the address is not responding.
is-multihomed		boolean optional	If true, the address is a multi-homed server.
is-primary		boolean optional	If true, the address is a primary server.

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

Element definition: **auth-mechanism**

[top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

Element definition: **cifs-access-perms**

[top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

Element definition: **cifs-auth-style**

[top]

domain|workgroup|realm Possible values:

- "domain" - DOMAIN,
- "workgroup" - WORKGROUP,
- "realm" - KERBEROS REALM

[none]

Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

Element definition: **cifs-ca-protection** [top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.
- "Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

Element definition: **cifs-dialects** [top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

Element definition: **cifs-domain-discovered-server-funclvl** [top]

win2000|unknown|win2003|win2008|win2008r2|win2012|win2012r2|win2016|winthreshold Possible values:

- "win2000" - WIN2000,
- "unknown" - The DC functionality level is unknown,
- "win2003" - WIN2003,
- "win2008" - WIN2008,
- "win2008r2" - WIN2008R2,
- "win2012" - WIN2012,
- "win2012r2" - WIN2012R2,
- "win2016" - WIN2016,
- "winthreshold" - WINTHRESHOLD

[none]

Element definition: **cifs-domain-discovered-server-status**

[top]

Classification of server based on the status of the connection. Possible values:

- "ok" - The connection to this server is usable.,
- "unavailable" - This server is currently unavailable for use.,
- "slow" - The connection to this server is usable but slow.,
- "expired" - The connection to this server has expired.,
- "undetermined" - A connection to this server has not been attempted.,
- "unreachable" - This server is currently unreachable.

[none]

Element definition: **cifs-domain-discovered-server-type**

[top]

The classification of servers based on service provided. Possible values:

- "unknown" - The server type is not known,
- "kerberos" - Kerberos server,
- "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server,
- "ms_dc" - Microsoft Domain Controller,
- "ldap" - Lightweight Directory Access Protocol (LDAP) server

[none]

Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,

"none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

Element definition: **cifs-domain-server-prefer-type**

[top]

The preference level of the server either set due to configuration or due to the site membership determined by server discovery. Possible values:

- "unknown" - The preference level of this server is unknown.,
- "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers.,
- "favored" - This server was marked as favored by the server discovery process by virtue of site membership.,
- "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it.

[none]

Element definition: **cifs-file-type**

[top]

The list of possible types of files opened through CIFS servers. Possible values:

- "Regular" - Regular file
- "Symlink" - Symlink file
- "Stream" - Stream file
- "Directory" - Directory

[none]

Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

Element definition: **cifs-name**

[top]

[none]

Element definition: **cifs-open-mode** [top]

The list of possible modes used when opening files over CIFS servers. Possible values:

- "R" - The file opened for read operation.
- "W" - The file opened for write operation.
- "D" - The file opened for delete operation.

[none]

Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

Element definition: **domain-name** [top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

Element definition: **elapsed-time-ext** [top]

The difference between the two points in time.

[none]

Element definition: **volumes-list-info** [top]

Information about a single volume.

Name	Range	Type	Description
volume		string	Name of the volume.

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **vserverid**

[top]

Vserver Id

[none]

Element definition: **wins-entry-info**

[top]

Windows Internet Name Server (WINS) information

Name	Range	Type	Description
wins-address		ip-address optional	Windows Internet Name Service (WINS) Server address. Attributes: non-creatable, non-modifiable
wins-state		string optional	WINS Server State. Possible values: 'active', 'inactive'. Attributes: non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

APIs in Category: **clock**

clock-get-clock
clock-get-timezone
clock-set-clock
clock-set-timezone

These APIs allow for manipulation of timezone and date on the filer. Timezone and date can be set on the filer as well as we can get the current date, timezone and compliance clock time on the filer.

clock-get-clock

[top]

gets current date and time from filer.

Input Name	Range	Type	Description
is-compliance-clock		boolean optional	If true, then local-time and utc-time are values for the compliance clock, otherwise they are values for the local clock. Default is false. Note: This field is deprecated in Data ONTAP 8.1 and later. If true, the operation will fail with error EOPNOTSUPPORTED. Clients should use the API snaplock-get-system-compliance-clock or snaplock-get-volume-compliance-clock as applicable to get the compliance clock time.

Output Name	Range	Type	Description
local-time	**[-43200..2^31-1]**	integer	Local date and time of the filer in seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours.
utc-time	**[0..2^31-1]**	integer	Current date and time of the filer in seconds since Midnight, 1/1/1970.

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

clock-get-timezone

[top]

Gets current timezone and timezone file version.

Output Name	Range	Type	Description
timezone		string	Current timezone name where the storage system is operating. A timezone can have one of the two formats: 1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone."; 2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern

			Time Zone.";
timezone-UTC		string	Current timezone of the storage system in UTC +/-hhmm format. This indicates that the local time zone is hh hours and mm minutes ahead or behind UTC. For example, Central European Time(CET) is +0100 and U.S./Canadian Eastern Standard Time(EST) is -0500.
timezone-version		string	Version of the time zone database. "YYYY" is the year the data base was released and "v" is the version within that year. "YYYY" will be four decimal digits and "v" will be an ASCII letter starting with "a" and increasing with each version. For example, the second 2007 version is "2007b".

Errno	Description
ENOTIMEZONESET	
ENOTIMEZONEVERSION	

clock-set-clock

[top]

Set current date and time to the specified date and time.

Input Name	Range	Type	Description
is-utc-clock		boolean	If this is true, then clock is given in UTC (universal time) instead of local time.
time	**[-43200..2^31-1]**	integer	Actual value of the date and time which has to be set as the current date and time on filer. Value will be seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
ETAKENOVER	
EDATENOTSETONPARTNER	

clock-set-timezone

[top]

Set current timezone to the specified timezone.

Input Name	Range	Type	Description
timezone		string	Name of the timezone value which has to be set as current timezone value. A timezone can have one of the two formats: 1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone."; 2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern Time Zone.";

Errno	Description
EINVALIDTIMEZONE	
EINTERNALERROR	
ETIMEZONEDIFFERENTINRC	

APIs in Category: **clone**

clone-autodelete
clone-autodelete-status
clone-create
clone-deletion-add-extension
clone-deletion-get-iter
clone-deletion-minimum-size
clone-deletion-remove-extension
clone-split-enable
clone-split-load-get-iter
clone-split-status
clone-start
clone-token-create
clone-token-delete
clone-token-get
clone-token-get-iter
clone-token-modify-expiry-limit

The cloning feature is based on constant time sis cloning storage (SIS) implementation and is the the block sharing infrastructure provided by Data ONTAP. The feature allows for the cloning from a file, LUN or NVMe namespace. Also the user can clone the entire file, LUN, or NVMe namespace (full range) or a portion of the file, LUN, or NVMe namespace (sub range). In case of full range cloning, a new file/LUN/NVMe namespace will always be created in the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the destination file can either be same as the source file/LUN/NVMe namespace or can be a different file/LUN/NVMe namespace within the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. Constant time SIS cloning supersedes the implementation of cloning in versions older than Data ONTAP 8.1. In Data ONTAP 8.0 the cloning implementation is an asynchronous operation. The clone-start API is used to start a clone operation. It returns an clone-id which is used for polling to get the status of the clone operation using the clone-list-status API. If this API returns success, the user can consider that clone operation has completed; if it returns failure, the user should clear the status of clone operation using clone-clear API. A clone operation in progress can be aborted using the clone-stop API. In Data ONTAP 8.1 the cloning implementation is a synchronous operation. The APIs to manage ongoing synchronous operations are deprecated, but retained for backwards compatibility.

clone-autodelete

[top]

Enable autodelete on a file, LUN, or NVMe namespace clone. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
clone-path		string	Path of the file, LUN, or NVMe namespace inside the volume. It's relative if the volume name is specified; otherwise it's absolute.
enable		boolean	If this field is true, autodelete will be allowed to delete the clone in try/disrupt mode. and if it is false, autodelete will not be allowed to delete the clone in try/disrupt mode. Note that this will be done only if the clone entry is already present in the clone auto delete metafile.
force		boolean optional	If this field is true, autodelete will be enabled on specified file, LUN, or NVMe namespace by adding an entry in the clone auto delete metafile if it is not there, even if the specified file, LUN, or NVMe namespace is not a clone. By default value is false.
volume		string optional	Name of the volume where the clone file, LUN, or NVMe namespace resides.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EINVALIDINPUTERROR	
EINTERNALERROR	
EFILENOTFOUND	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EONTAPI_EPERM	
EONTAPI_EVOLOPNOTSUPP	

clone-autodelete-status

[top]

Get the information about file or LUN clone autodeletion

Input Name	Range	Type	Description
clone-path		string	Path of the file or LUN clone.

Output Name	Range	Type	Description
clone-autodelete-info		clone-autodelete-info	Information about file or LUN clone autodeletion.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-create

[top]

Create a file/sub file, LUN/sub LUN, or NVMe namespace/sub NVMe namespace clone. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
autodelete		boolean optional	Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false.
			List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. For sub-LUN or sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file. If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN cloning, the API will copy data in case the LBAs are not block aligned. In

block-ranges		block-range[] optional	case of sub-LUN/sub-NVMe namespace cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes, and the API returns an error if the block sizes do not match. Sub range cloning is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned.
destination-exists		boolean optional	Allow clone creation if the destination exists. By default value is false.
destination-path		string optional	Full path of the destination file, LUN, or NVMe namespace relative to the volume. The destination file must be in same volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file clone operation from snapshot copy, "destination-path" is mandatory.
destination-volume		string optional	Name of the volume where the destination file resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different.
ignore-locks		boolean optional	Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false.
ignore-streams		boolean optional	Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted.
is-backup		boolean optional	This option is only to be used with full-file clone creates for backups, where source file gets periodically modified and clone file is not modified. By default, value is false.
qos-adaptive-policy-group-name		string optional	QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the flexclone file's allocated space or used space. This field is available in Data ONTAP 9.4 and later
qos-policy-group-name		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a flexclone file, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later
snapshot-name		string optional	Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of the active filesystem will be used.
source-path		string	Relative path of the source file, LUN, or NVMe namespace inside the volume.
space-reserve		boolean optional	Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range.
token-uuid		string optional	Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation.
volume		string	Name of the volume where the source and destination files, LUNs, or NVMe namespaces reside.

Errno	Description

ESIS_CLONE_LICENSE_EXPIRED	
ESIS_CLONE_CLONE_INVALID_SPC_RSRV	
ESIS_CLONE_STALE_INODE	
ESIS_CLONE_DECOMP_ACTIVE	
ESIS_CLONE_SPLIT_MAP	
ESIS_CLONE_SOURCE_TOO_SMALL	
EDENSE_CLONE_NOT_LICENSED	
EONTAPI_EBUSY	
EONTAPI_ESTALE	
EONTAPI_EDQUOT	
EONTAPI_EACCES	
EONTAPI_ENOSPC	
ESIS_CLONE_DOWNGRADE	
EINTERNALERROR	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_GENERAL_OP_ERROR	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_CLONE_WITH_RANGE_PROHIBITED	
EVDISK_ERROR_7MODE_LUN	
EONTAPI_ENOMEM	
EVDISK_ERROR_TOO_MANY_LUNS	
ESIS_CLONE_BKPR_ENOSPC	
ESIS_CLONE_BKPR_TOKEN_EXPIRED	
ESIS_CLONE_CC_MISMATCH	
ESIS_CLONE_CC_SETFAIL	
EOP_DISALLOWED_FILE_FENCED	
ESIS_CLONE_SRC_VDISK_NOTSUP	
ESIS_CLONE_SRC_VDISK_INCONSISTENT	
ESIS_CLONE_MW_SUB_FILE_NOTSUP	
ESIS_CLONE_MW_X_VOL_CLONE_FAILURE	
EVDISK_INVALID_SECTOR_SIZE	
EVDISK_LUN_CROSS_NVME_NS	
EVDISK_NVME_NS_CROSS_LUN	

clone-deletion-add-extension

[top]

Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
extensions		string	Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete
volume		volume-name	Volume Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-deletion-get-iter

[top]

List the clone deletion info

Input Name	Range	Type	Description
desired-attributes		clone-deletion-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 10
query		clone-deletion-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		clone-deletion-info[] optional	The list of attributes of clone objects.
next-tag		string optional	Tag for the next call. Not present when there are no more clone objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

clone-deletion-minimum-size

[top]

Required minimum size of the file(s) and lun(s) on the specified volume to be deleted with clone-delete.

Input Name	Range	Type	Description
minimum-size		string	Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k|m|g|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes
		volume-	

volume		name	Volume Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

License
FlexClone

clone-deletion-remove-extension

[top]

Remove the no longer supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

Input Name	Range	Type	Description
extensions		string optional	Existing file extension that is no longer supported for clone-delete. If this value is not specified, then it will remove all the existing file extensions
volume		volume-name	Volume Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-split-enable

[top]

Enable clone split on split disabled entry

Input Name	Range	Type	Description
clone-path		string	Name of the clone file.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EINVALIDINPUTERROR	
EINTERNALERROR	
EFILENOTFOUND	
EAPIMISSINGARGUMENT	

License
FlexClone

clone-split-load-get-iter

[top]

Gets information about load on all nodes due to file or LUN clone split operations.

Input Name	Range	Type	Description
desired-attributes		clone-split-load-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 10
query		clone-split-load-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		clone-split-load-info[] optional	The list of attributes of clone objects.
next-tag		string optional	Tag for the next call. Not present when there are no more clone objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
ENODENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-split-status

[top]

Get the information about unsplit file or LUN clones in a volume

Input Name	Range	Type	Description
volume-name		string	Name of the volume where the file or LUN clone resides.

Output Name	Range	Type	Description
clone-split-info		clone-split-info	Information about unsplit file or LUN clones.

Errno	Description

EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVSERVER_OP_NOT_ALLOWED	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-start

[top]

In Data ONTAP 8.0 and earlier this API starts a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation asynchronously. If clone operation starts successfully, a unique clone-id is returned. User is supposed to poll clone-list-status specifying clone-id to get the status of the clone operation. When clone-list-status returns status as completed, user can consider that the clone operation has been completed successfully. If user gets status as failed, user is responsible for doing clone-clear which will clean the status of the clone operation. In Data ONTAP 8.1 and later, this API performs a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation synchronously. When this API returns successfully, the destination file is ready for use.

Input Name	Range	Type	Description
autodelete		boolean optional	Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false.
block-ranges		block-range[] optional	List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. The number of block ranges is limited to 32. For sub-LUN/sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN/sub-NVMe namespace cloning, the API will copy data in case the LBAs are not block aligned. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. If the source and destination block sizes do not match for sub-LUN/sub-NVMe namespace cloning, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned.
change-log		boolean optional	If this option is "true", fingerprints of data blocks of the destination file/block ranges created will be change logged to the change log file if A-SIS is enabled on the volume. With change logging clone operation will be slow, as to get fingerprints all the data blocks will be read. Without change logging clone operation deals with only indirect blocks without reading data blocks. Without change logging, fingerprints of the clone blocks are not recorded. The clone blocks are shared with the source blocks, but as later the source blocks are modified, corresponding clone blocks will no longer be shared. If change logging option is not used, clone blocks, which could be involved in sharing with rest of the file system, can not be shared in next sis operation. The only option, in case user had not used change logging while creating clone, will be to start sis from beginning using "sis start -s" to gather fingerprints of clone blocks. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored.
destination-		boolean	Allow clone creation if the destination exists. By default value is false.

exists		optional	
destination-path		string optional	Full path of the Destination file, LUN, or NVMe namespace in //file-path format. Destination path should be in same flexible volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file/sub-LUN/sub-NVMe namespace clone operation from snapshot copy, "destination-path" is mandatory.
destination-volume		string optional	Name of the volume where the destination files resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different.
ignore-locks		boolean optional	Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false.
ignore-streams		boolean optional	Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted.
is-backup		boolean optional	This option is only to be used with full-file clone creates for backups, where source file gets periodically modified, and clone file is not modified. By default, value is false.
no-snap		boolean optional	If no-snap is FALSE or unspecified, then a temporary snapshot will be taken and source file locked in snapshot will be considered for cloning. So that the clone operation does not get affected by writes to the source file in parallel to the clone operation. User will get atomic point in time copy of the source. Irrespective of clone operation completes successfully or unsuccessfully, any temporary snapshot taken for cloning will be deleted automatically. If no-snap is "true", then the source file in AFS will be used for cloning. In this case user may get random data in clone if source file is modified while clone operation is in progress. This option should only be used when user is assured that the source file will remain consistent during the clone operation. Destination file is not protected against any modification while clone operation is in progress. User should use the destination file or destination block ranges after clone operation is finished. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored.
snapshot-name		string optional	Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of in the active filesystem will be used. This field is available in Data ONTAP 8.1 or later
source-path		string	Full path of the source file, LUN, or NVMe namespace in //file-path format.
space-reserve		boolean optional	Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range.
token-uuid		string optional	Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation.

Output Name	Range	Type	Description
clone-id		clone-id-info	Unique ID information for the clone operation returned if clone operation starts successfully. This field is deprecated in Data ONTAP 8.1 and later, the returned value is guaranteed to be a completed clone operation if supplied to clone-list-info.

Errno	Description
ESIS_CLONE_CLONE_INVALID_SPC_RSRV	

ESIS_CLONE_NLCSR_INPROG	
ESIS_CLONE_VOL_NONEXIST	
ESIS_CLONE_VOL_OFFLINE	
ESIS_CLONE_VOL_NOTSUP	
ESIS_CLONE_VOL_RDONLY	
ESIS_CLONE_VOL_TRANSITING	
ESIS_CLONE_STALE_INODE	
ESIS_CLONE_STALE_DINODE	
ESIS_CLONE_STALE_RINODE	
ESIS_CLONE_SHUTDOWN	
ESIS_CLONE_FAILOVER	
ESIS_CLONE_CLONE_EXIST	
ESIS_CLONE_CLONE_SFILE_NONEXIST	
ESIS_CLONE_CLONE_CFILE_NONEXIST	
ESIS_CLONE_CLONE_DIFF_VOLUME	
ESIS_CLONE_CLONE_SFILE_ATTR	
ESIS_CLONE_CLONE_CFILE_ATTR	
ESIS_CLONE_CLONE_FH	
ESIS_CLONE_CLONE_SOURCE_FH	
ESIS_CLONE_CLONE_TYPE_SUPP	
ESIS_CLONE_CLONE_OVERLAP_RANGE	
ESIS_CLONE_CLONE_INVALID_RANGE	
ESIS_CLONE_CLONE_INVALID_SOURCE	
ESIS_CLONE_CLONE_INVALID_CLONE	
ESIS_CLONE_CLONE_INVALID_DIR	
ESIS_CLONE_CLONE_WORM_VOL	
ESIS_CLONE_VDISK_INVALID_NAME	
ESIS_CLONE_LICENSE_EXPIRED	
ESIS_CLONE_NOT_LICENSED	
ESIS_CLONE_LICENSE_EXPIRED	
ESIS_CLONE_NOT_LICENSED	
ESIS_CLONE_DECOMP_ACTIVE	
ESIS_CLONE_SPLIT_MAP	
ESIS_CLONE_SOURCE_TOO_SMALL	
EONTAPI_EBUSY	
EONTAPI_ESTALE	
EONTAPI_EDQUOT	
EONTAPI_EACCES	
EONTAPI_ENOSPC	
ESIS_CLONE_DOWNGRADE	
ESIS_CLONE_VFILER_ACCESS	
ESIS_CLONE_MAX_RANGES	
ESIS_CLONE_MAX_BLKS	
ESIS_CLONE_MAX_BLKS_EXT	
ESIS_CLONE_SRC_DST_CIFS_MISMATCH	
EINTERNALERROR	
ESIS_CLONE_MAX_DENSE_LIMIT_REACHED	
EVSERVER_OPERATION_NOT_PERMITTED	

EOP_DISALLOWED_FILE_FENCED	
EONTAPI_ENAMETOOLONG	
ESIS_CLONE_NOSPLIT_NOT_ALLOWED	
ESIS_CLONE_MW_SUB_FILE_NOTSUP	
ESIS_CLONE_MW_X_VOL_CLONE_FAILURE	
EVDISK_INVALID_SECTOR_SIZE	
EVDISK_LUN_CROSS_NVME_NS	
EVDISK_NVME_NS_CROSS_LUN	

clone-token-create

[top]

Create a token to reserve available split load on a node. This token can be used with clone-create api to use up the reserved split load. This will to allow clone creates from getting throttled.

Input Name	Range	Type	Description
expiry-limit		integer optional	The duration (in seconds) for which the reserved token is valid.
node		node-name	Node name on which split load is reserved.
reserve-size		size	Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones.

Output Name	Range	Type	Description
token-uuid		string	Token UUID for which the split load is reserved.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-delete

[top]

Delete token(s) to increase the allowed split load by a node.

Input Name	Range	Type	Description
node		node-name	Node name on which split load is reserved.
token-uuid		string optional	Token UUID for which the split load is reserved.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-get

[top]

Get the information about a specified token.

Input Name	Range	Type	Description
node		node-name	Node name on which split load is reserved.
token-uuid		string	Token UUID for which the split load is reserved.

Output Name	Range	Type	Description
clone-token-info		clone-token-info	Information about token reserved for file or LUN clone creates.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-get-iter

[top]

Get the information about all reserved tokens.

Input Name	Range	Type	Description
desired-attributes		clone-token-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
node		node-name	Node name on which split load is reserved.
query		clone-token-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		clone-token-info[] optional	The list of attributes of clone objects.
next-tag		string optional	Tag for the next call. Not present when there are no more clone objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

clone-token-modify-expiry-limit

[top]

Modify the allowed expiry limit for token(s).

Input Name	Range	Type	Description
node		node-name	Node name on which split load is reserved.
reservation-duration-limit	**[0..2^64-1]**	integer	The duration (in seconds) for which the reserved token is valid.
token-uuid		string optional	Token UUID for which the split load is reserved.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

Element definition: **block-range**

[top]

Structure containing source and destination block range for sub-file/sub-LUN/sub-NVMe namespace cloning.

Name	Range	Type	Description
block-count	**[1..2^27]**	integer	Number of blocks to be cloned.
destination-block-number	**[0..2^63-1]**	integer	Starting file block number of destination block range.
source-block-number	**[0..2^63-1]**	integer	Starting file block number of source block range. Block size is 4096 bytes.

Element definition: **clone-autodelete-info**

[top]

Information about file or LUN clone autodeletion. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-autodelete-enabled		boolean optional	If this field is true, autodelete will delete the clone in try/disrupt mode. If it is false, autodelete will delete the clone only in destroy mode. Attributes: non-creatable, non-modifiable

Element definition: **clone-deletion-info**

[top]

Structure containing the clone deletion information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
extension-info-list		extension-info[] optional	List of file extensions that needs to be added/removed for clone-delete
minimum-size		string optional	Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k|m|g|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes Attributes: non-creatable, modifiable
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **clone-id-info**

[top]

Structure containing clone ID information.

Name	Range	Type	Description
clone-op-id	**[0..2^63-1]**	integer	ID of the clone operation.
volume-uuid		string	uuid of the volume.

Element definition: **clone-split-info**

[top]

Information about unsplit file or LUN clones. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
unsplit-clone-count	**[0..2^32-1]**	integer optional	Number of file clones or LUN clones present in the the volume that are not split. Attributes: non-creatable, non-modifiable
unsplit-size		size optional	Total size (in bytes) of file or LUN clones in the volume that are not split. Attributes: non-creatable, non-modifiable

Element definition: **clone-split-load-info**

[top]

Information about load on the node due to file or LUN clone split operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
available-split-load		size optional	Remaining allowable load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable
current-split-load		size optional	Current clone split load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable
max-split-load		size optional	Maximum clone split load allowed on the node. Load is specified in number of bytes. Attributes: non-creatable, modifiable
node		node-name optional	Node name for which the clone split load is required. Attributes: key, non-creatable, non-modifiable
token-reserved-load		size optional	Load reserved by tokens on the node for clone creation. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable

Element definition: **clone-token-info**

[top]

Information about token reserved for file or LUN clone creates. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
expiry-limit	**[0..2^64-1]**	integer optional	The duration (in seconds) for which the reserved token is valid. Attributes: optional-for-create, modifiable
node		node-name optional	Node name on which split load is reserved. Attributes: key, required-for-create, non-modifiable
reserve-size		size optional	Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones. Attributes: required-for-create, non-modifiable
time-left	**[0..2^64-1]**	integer optional	The remaining duration (in seconds) for which the reserved token is valid. Attributes: non-creatable, non-modifiable
token-uuid		string optional	Token UUID for which the split load is reserved. Attributes: key, required-for-create, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **extension-info**

[top]

File extensions for clone-delete

Name	Range	Type	Description
extensions		string optional	Supported file extensions for clone-delete Attributes: non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **cluster**

cluster-add-node
cluster-add-node-status-get-iter
cluster-contact-get
cluster-contact-modify
cluster-create
cluster-create-join-progress-get
cluster-identity-get
cluster-identity-modify
cluster-join
cluster-log-forward-create
cluster-log-forward-destroy
cluster-log-forward-get
cluster-log-forward-get-iter
cluster-log-forward-modify
cluster-log-forward-statistics-get
cluster-log-forward-statistics-get-iter
cluster-node-get
cluster-node-get-iter
cluster-node-modify
cluster-remove-node
cluster-zoneinfo-get
cluster-zoneinfo-load-from-uri

This set of APIs allows managing the cluster and its attributes.

cluster-add-node

[top]

Use this API to add new nodes to cluster. Provide only one of node-count, node-ip, or cluster-ips. To watch the progress use cluster-add-node-status-get-iter API. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cluster-ips		ip-address[] optional	Use this option to add a set of nodes based on their cluster IP addresses.
discovery-timeout		integer optional	Max Time to Discover Nodes to Be Added (in Secs)
node-count		integer optional	Use this option to discover and add new nodes. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4.

node-ip		ip-address optional	Use this option to add a specific node based on its cluster IP address. This parameter has been deprecated in Data ONTAP 9.4.
node-names		string[] optional	Use this option to specify the names to use for the nodes added using the cluster-ips argument.
node-uuids		uuid[] optional	List of Node UUIDs
retry		boolean optional	Retry a failed cluster add-node operation

Output Name	Range	Type	Description
job-id		integer optional	Job ID of Node Add
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
E_UNSUPPORTED_PLATFORM	

cluster-add-node-status-get-iter

[top]

Get Progress of Cluster Create or Node Add Operation

Input Name	Range	Type	Description
desired-attributes		cluster-create-add-node-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-create-add-node-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		cluster-create-add-node-	

list		status-info[] optional	The list of attributes of cluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-contact-get

[top]

Returns the contact information.

Input Name	Range	Type	Description
desired-attributes		cluster-contact optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-contact	The attributes of the cluster-contact.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-contact-modify

[top]

Modifies the contact information.

Input Name	Range	Type	Description
address		string optional	Business Address
business-name		string optional	Business Name
city		string optional	City Where Business Resides
			2-Character Country Code Possible values: • "99" - Unknown, • "ad" - Andorra, • "ae" - United Arab Emirates, • "af" - Afghanistan, • "ag" - Antigua and Barbuda, • "ai" - Anguilla,

			• "al" - Albania, • "am" - Armenia, • "an" - Netherlands Antilles, • "ao" - Angola, • "aq" - Antarctia, • "ar" - Argentina, • "as" - American Samoa, • "at" - Austria, • "au" - Australia, • "aw" - Aruba, • "az" - Azerbaijan, • "ba" - Bosnia and Herzegovina, • "bb" - Barbados, • "bd" - Bangladesh, • "be" - Belgium, • "bf" - Burkina Faso, • "bg" - Bulgaria, • "bh" - Bahrain, • "bi" - Burundi, • "bj" - Benin, • "bm" - Bermuda, • "bn" - Brunei Darussalem, • "bo" - Bolivia, • "br" - Brazil, • "bs" - Bahamas, • "bt" - Bhutan, • "bv" - Bouvet Island, • "bw" - Botswana, • "by" - Belarus, • "bz" - Belize, • "ca" - Canada, • "cc" - Cocos (Keeling) Islands, • "cd" - Congo, The Democratic Republic of the, • "cf" - Central African Republic, • "cg" - Congo, • "ch" - Switzerland, • "ci" - Cote d'Ivoire, • "ck" - Cook Islands, • "cl" - Chile, • "cm" - Cameroon, • "cn" - China, • "co" - Colombia, • "cr" - Costa Rica, • "cu" - Cuba, • "cv" - Cape Verde, • "cx" - Christmas Island, • "cy" - Cyprus, • "cz" - Czech Republic, • "de" - Germany, • "dj" - Djibouti, • "dk" - Denmark, • "dm" - Dominica, • "do" - Dominican Republic, • "dz" - Algeria, • "ec" - Ecuador, • "ee" - Estonia, • "eg" - Egypt, • "eh" - Western Sahara, • "er" - Eritrea, • "es" - Spain,

country		country-code optional	"et" - Ethiopia, • "fi" - Finland, • "fj" - Fiji, • "fk" - Falkland Islands (Malvinas), • "fm" - Micronesia, Federated States of, • "fo" - Faroe Islands, • "fr" - France, • "fx" - France Metropolitan, • "ga" - Gabon, • "gb" - United Kingdom, • "gd" - Grenada, • "ge" - Georgia, • "gf" - French Guiana, • "gh" - Ghana, • "gi" - Gibraltar, • "gl" - Greenland, • "gm" - Gambia, • "gn" - Guinea, • "gp" - Guadaloupe, • "gq" - Equatorial Guinea, • "gr" - Greece, • "gs" - South Georgia and the South Sandwich Islands, • "gt" - Guatemla, • "gu" - Guam, • "gw" - Guinea-Bissau, • "gy" - Guyana, • "hk" - China (Hong Kong S.A.R.), • "hm" - Heard and McDonald Islands, • "hn" - Honduras, • "hr" - Croatia, • "ht" - Haiti, • "hu" - Hungary, • "id" - Indonesia, • "ie" - Ireland, • "il" - Israel, • "in" - India, • "io" - British Indian Ocean Territory, • "iq" - Iraq, • "ir" - Iran, • "is" - Iceland, • "it" - Italy, • "jm" - Jamaica, • "jo" - Jordan, • "jp" - Japan, • "ke" - Kenya, • "kg" - Kyrgyzstan, • "kh" - Khmer Rep Cambodia, • "ki" - Kiribati, • "km" - Comoros, • "kn" - Saint Kitts and Nevis, • "kp" - Korea, Democratic People's Republic of (North Korea), • "kr" - Korea, Republic of (South Korea), • "kw" - Kuwait, • "ky" - Cayman Islands, • "kz" - Kazakhstan, • "la" - Lao People's Democratic Republic (Laos), • "lb" - Lebanon, • "lc" - Saint Lucia, • "li" - Liechtenstein,

			"lk" - Sri Lanka, • "lr" - Liberia, • "ls" - Lesotho, • "lt" - Lithuania, • "lu" - Luxembourg, • "lv" - Latvia, • "ly" - Libyan Arab Jamahiriya (Lybia), • "ma" - Morocco, • "mc" - Monaco, • "md" - Moldavia, • "mg" - Madagascar, • "mh" - Marshall Islands, • "mk" - Macedonia, • "ml" - Mali, • "mm" - Myanmar, • "mn" - Mongolia, • "mo" - China (Macau S.A.R.), • "mp" - Northern Mariana Islands, • "mq" - Martinique, • "mr" - Mauritania, • "ms" - Montserrat, • "mt" - Malta, • "mu" - Mauritius, • "mv" - Maldives, • "mw" - Malawi, • "mx" - Mexico, • "my" - Malaysia, • "mz" - Mozambique, • "na" - Namibia, • "nc" - New Caledonia, • "ne" - Niger, • "nf" - Norfolk Island, • "ng" - Nigeria, • "ni" - Nicaragua, • "nl" - Netherlands, • "no" - Norway, • "np" - Nepal, • "nr" - Nauru, • "nu" - Niue, • "nz" - New Zealand, • "om" - Oman, • "pa" - Panama, • "pe" - Peru, • "pf" - French Polynesia, • "pg" - Papua New Guinea, • "ph" - Philippines, • "pk" - Pakistan, • "pl" - Poland, • "pm" - St. Pierre and Miquelon, • "pn" - Pitcairn, • "pr" - Puerto Rico, • "pt" - Portugal, • "pw" - Palau, • "py" - Paraguay, • "qa" - Qatar, • "re" - Reunion, • "ro" - Romania, • "ru" - Russia, • "rw" - Rwanda, • "sa" - Saudi Arabia,

			"sb" - Solomon Islands, • "sc" - Seychelles, • "sd" - Sudan, • "se" - Sweden, • "sg" - Singapore, • "sh" - St. Helena, • "si" - Slovenia, • "sj" - Svalbard and Jan Mayen Islands, • "sk" - Slovakia, • "sl" - Sierra Leone, • "sm" - San Marino, • "sn" - Senegal, • "so" - Somalia, • "sr" - Suriname, • "st" - Sao Tome and Principe, • "sv" - El Salvador, • "sy" - Syrian Arab Republic (Syria), • "sz" - Swaziland, • "t9" - Service Agent Test Systems T9 XX, • "tc" - Turks and Caicos Islands, • "td" - Chad, • "tf" - French Southern Territories, • "tg" - Togo, • "th" - Thailand, • "tj" - Tajikistan, • "tk" - Tokelau, • "tl" - East Timor, • "tm" - Turkmenistan, • "tn" - Tunisia, • "to" - Tonga, • "tr" - Turkey, • "tt" - Trinidad And Tobago, • "tv" - Tuvalu, • "tw" - Taiwan, • "tz" - Tanzania, • "ua" - Ukraine, • "ug" - Uganda, • "um" - United States Minor Outlying Islands, • "us" - United States, • "uy" - Uruguay, • "uz" - Uzbekistan, • "va" - Vatican City State (Holy See), • "vc" - Saint Vincent and the Grenadines, • "ve" - Venezuela, • "vg" - British Virgin Islands, • "vi" - Virgin Islands (U.S.), • "vn" - Vietnam, • "vu" - Vanuatu, • "wf" - Wallis and Futuna Islands, • "ws" - Samoa (Western), • "ye" - Yemen, • "yt" - Mayotte, • "yu" - Serbia, • "za" - South Africa, • "zm" - Zambia, • "zw" - Zimbabwe
primary-alt-phone		string optional	Alternate Phone Number of Primary Contact
primary-email		string	Email Address or User ID of Primary Contact

		optional	
primary-name		string optional	Name of Primary Contact
primary-phone		string optional	Phone Number of Primary Contact
secondary-alt-phone		string optional	Alternate Phone Number of Secondary Contact
secondary-email		string optional	Email Address or User ID of Secondary Contact
secondary-name		string optional	Name of Secondary Contact
secondary-phone		string optional	Phone Number of Secondary Contact
state		string optional	State Where Business Resides
zip-code		string optional	Postal Code Where Business Resides

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-create

[top]

Start the process to create a cluster using this node. Use cluster-add-node-status-get-iter to track the status of the operation. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cluster-ips		ip-address[] optional	Use this option to specify the nodes in the cluster based on their cluster IP addresses.
cluster-name		string	Use this parameter to specify the name of the cluster you are creating. The cluster name must begin with a letter and cannot be more than 44 characters in length.
discovery-timeout		integer optional	Max Time to Discover Nodes to Be Added (in Secs)
keep-precluster-cert		boolean optional	Keep Precluster Certificate
license		license-code-v2 optional	The base cluster license obtain with the hardware or from NetApp professional services. This parameter has been deprecated in Data ONTAP 9.2.
node-count		integer optional	Use this parameter to specify the number of nodes in the cluster you are creating. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4.
node-names		string[] optional	Use this option to specify the names to use for the nodes specified using the cluster-ips argument.
node-uuids		uuid[] optional	List of Node UUIDs

retry		boolean optional	Retry a failed cluster create operation
single-node-cluster		boolean optional	The Cluster Is a Single Node Cluster

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINVALIDACCESS	
E_NODE_ALREADY_IN_CLUSTER	
E_CLUSTER_CREATE_JOIN_FAILED	

cluster-create-join-progress-get

[top]

Once the cluster create or cluster join operation has been started on this node, use this ZAPI to get the current status of the operation. During cluster join, there is a 1 to 5 second window where the network connection will be unavailable while web services restart. The caller will have to periodically retry until this ZAPI becomes available.

Input Name	Range	Type	Description
desired-attributes		cluster-create-join-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-create-join-progress-info	The attributes of the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-identity-get

[top]

Returns the cluster identity information.

Input Name	Range	Type	Description
desired-attributes		cluster-identity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-identity-info	The attributes of the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-identity-modify

[top]

Modifies the cluster identity information.

Input Name	Range	Type	Description
cluster-contact		string optional	The contact information for the cluster
cluster-location		string optional	The location of the cluster
cluster-name		cluster-name-simple optional	The textual name of the cluster

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-join

[top]

Start the process of joining this node to a cluster. Join can be done by Cluster IP Address. Only one join operation is supported at a time. Use cluster-create-join-progress-get to track the status of the operation. This API is deprecated as of Data ONTAP 9.2, and the cluster-add-node API should be used instead.

Input Name	Range	Type	Description
cluster-ip-address		ip-address optional	IP Address of a Cluster Interface from a Node in the Cluster
cluster-name		string optional	(DEPRECATED)-Cluster Name of the Cluster to Join

Errno	Description

E_INVALID_OPERATION	
E_NODE_ALREADY_IN_CLUSTER	
E_CLUSTER_INTERFACE_REQUIRED	
EAPIMISSINGARGUMENT	
E_MULTIPLE_CLUSTERS_OF_SAME_NAME_EXIST	
E_CLUSTER_CREATE_JOIN_FAILED	

cluster-log-forward-create

[top]

Create a log forwarding configuration

Input Name	Range	Type	Description
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
facility		syslog-facility optional	Facility code used to indicate the type of software that generated the message. Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3, • "local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
force		boolean optional	Skip the Connectivity Test
ipspace		string optional	The IP space of the destination to forward the message.
port	**[1..65535]**	integer optional	The destination port used to forward the message.
protocol		log-fwd-proto optional	Log Forwarding Protocol Possible values: • "udp_unencrypted" - UDP unencrypted, • "tcp_unencrypted" - TCP unencrypted, • "tcp_encrypted" - TCP encrypted
return-record		boolean optional	If set to true, returns the log forwarding info on successful creation. Default: false
verify-server		boolean optional	Verify Destination Server Identity

Output Name	Range	Type	Description
result		cluster-log-forward-info optional	The log forwarding info created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-destroy

[top]

Delete a log forwarding configuration

Input Name	Range	Type	Description
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
port	**[1..65535]**	integer	The destination port used to forward the message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-get

[top]

Get information about log forwarding

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
port	**[1..65535]**	integer	The destination port used to forward the message.

Output Name	Range	Type	Description
attributes		cluster-log-forward-info	The attributes of the log forwarding info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-get-iter

[top]

Get information about log forwarding

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-log-forward-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding info object. All log forwarding info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-log-forward-info[] optional	The list of attributes of log forwarding info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more log forwarding info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-modify

[top]

Modify the log forwarding configuration

Input Name	Range	Type	Description
destination		remote-inet-address	Destination address that the log messages will be forwarded to. Can be a hostname or IP address.
facility		syslog-facility optional	Facility code used to indicate the type of software that generated the message. Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3,

			"local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
ipspace		string optional	The IP space of the destination to forward the message.
port	**[1..65535]**	integer	The destination port used to forward the message.
verify-server		boolean optional	Verify Destination Server Identity

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-statistics-get

[top]

Get information about log forwarding statistics

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		remote-inet-address	Destination Host
index	**[0..2^32-1]**	integer	Destination Index
log		string	Log Name
node		node-name	Node
port	**[1..65535]**	integer	Destination Port

Output Name	Range	Type	Description
attributes		cluster-log-forward-statistics	The attributes of the log forwarding statistics.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-log-forward-statistics-get-iter

[top]

Get information about log forwarding statistics

Input Name	Range	Type	Description
desired-attributes		cluster-log-forward-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-log-forward-statistics optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding statistics object. All log forwarding statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-log-forward-statistics[] optional	The list of attributes of log forwarding statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more log forwarding statistics objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-node-get

[top]

Returns information about a node in a cluster.

Input Name	Range	Type	Description
desired-attributes		cluster-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The textual name of a node.

Output Name	Range	Type	Description
attributes		cluster-node-	The attributes of the cluster.

		info	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-node-get-iter

[top]

Returns information about nodes in a cluster.

Input Name	Range	Type	Description
desired-attributes		cluster-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-node-info[] optional	The list of attributes of cluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-node-modify

[top]

Modifies state of a node in a cluster.

Input Name	Range	Type	Description
is-node-eligible		boolean optional	This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible.
is-node-epsilon		boolean optional	You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means

			the node is epsilon.
node-name		node-name	The textual name of a node.
skip-quorum-check-before-eligible		boolean optional	Skip quorum checks when setting a node eligible. When setting a node to eligible, the operation will continue even if there is a possible data outage due to a quorum issue.
skip-quorum-check-before-ineligible		boolean optional	Skip quorum checks when setting a node ineligible. When setting a node to ineligible, the operation will continue even if there is a possible data outage due to a quorum issue.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-remove-node

[top]

Removes a node from the cluster. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cluster-ip		ip-address optional	IP Address of a Cluster Interface of Node to Unjoin
force		boolean optional	Force Node to Unjoin
node		filer-id optional	Node to Unjoin
node-uuid		uuid optional	Node UUID to Unjoin
skip-epsilon-transition-before-unjoin		boolean optional	Skip Epsilon Transition Prior to Unjoin
skip-last-low-version-node-check		boolean optional	Skip the Check That Prevents Unjoining the Last Low Versioned Node
skip-quorum-check-before-unjoin		boolean optional	Skip quorum checks when removing a node. The operation will continue even if there is a possible data outage due to a quorum issue.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded",

			"in_progress", "failed".

Errno	Description
E_CLUSTER_CREATE_JOIN_UNJOIN_NODE_NOT_IN_CLUSTER	
E_CLUSTER_CREATE_JOIN_UNJOIN_SINGLE_NODE_CLUSTER	
E_CLUSTER_CREATE_JOIN_UNJOIN_ON_SAME_NODE	
E_UNJOIN_JOB_UPGRADE_PREVENT_UNJOIN	
E_CLUSTER_CREATE_JOIN_NODE_OFFLINE	
E_JOB_UNJOIN_JOB_ERROR	
E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM	

cluster-zoneinfo-get

[top]

Get zoneinfo information

Input Name	Range	Type	Description
desired-attributes		zoneinfo-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		zoneinfo-info	The attributes of the Zoneinfo info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-zoneinfo-load-from-uri

[top]

This commands loads a new set of timezone zoneinfo data to replace the version installed in the cluster.

Releases of Data ONTAP software contain the timezone data that is current at the time of release. If a change is made to the timezone between Data ONTAP releases, then an update can be made to the installed data.

For instance, if a change is made to when daylight saving time is observed for a country then an update to cluster zoneinfo data may be required.

Only zoneinfo files provided for use in Data ONTAP should be used with this command.

To update the zoneinfo database do the following:

- Download the required zoneinfo file from the support website.
- Place the file on a local web server accessible without password from the cluster.
- Execute this command, passing the Universal Resource Identifier (URI) of the file as parameter.

The command need only be executed once for the cluster. The data will be distributed to each node of

the cluster.

Input Name	Range	Type	Description
uri		uri	Universal Resource Identifier (URI) of the zoneinfo data to load. HTTP and FTP schemes are supported.

Errno	Description
EINVALIDINPUTERROR	
E_ZONEINFO_DOWNLOAD_FAILED	
E_ZONEINFO_UNSUPPORTED_FILE_TYPE	
E_ZONEINFO_UNZIP_FAILED	
E_ZONEINFO_UNTAR_FAILED	
E_ZONEINFO_INVALID_FILE	
E_ZONEINFO_FILESYSTEM_ERROR	

Element definition: **cluster-contact**

[top]

Administrator contact information for the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		string optional	Business Address Attributes: non-creatable, modifiable
business-name		string optional	Business Name Attributes: non-creatable, modifiable
city		string optional	City Where Business Resides Attributes: non-creatable, modifiable
			2-Character Country Code Attributes: non-creatable, modifiable Possible values: • "99" - Unknown, • "ad" - Andorra, • "ae" - United Arab Emirates, • "af" - Afghanistan, • "ag" - Antigua and Barbuda, • "ai" - Anguilla, • "al" - Albania, • "am" - Armenia, • "an" - Netherlands Antilles, • "ao" - Angola, • "aq" - Antarctia, • "ar" - Argentina, • "as" - American Samoa, • "at" - Austria, • "au" - Australia,

			• "aw" - Aruba, • "az" - Azerbaijan, • "ba" - Bosnia and Herzegovina, • "bb" - Barbados, • "bd" - Bangladesh, • "be" - Belgium, • "bf" - Burkina Faso, • "bg" - Bulgaria, • "bh" - Bahrain, • "bi" - Burundi, • "bj" - Benin, • "bm" - Bermuda, • "bn" - Brunei Darussalem, • "bo" - Bolivia, • "br" - Brazil, • "bs" - Bahamas, • "bt" - Bhutan, • "bv" - Bouvet Island, • "bw" - Botswana, • "by" - Belarus, • "bz" - Belize, • "ca" - Canada, • "cc" - Cocos (Keeling) Islands, • "cd" - Congo, The Democratic Republic of the, • "cf" - Central African Republic, • "cg" - Congo, • "ch" - Switzerland, • "ci" - Cote d'Ivoire, • "ck" - Cook Islands, • "cl" - Chile, • "cm" - Cameroon, • "cn" - China, • "co" - Colombia, • "cr" - Costa Rica, • "cu" - Cuba, • "cv" - Cape Verde, • "cx" - Christmas Island, • "cy" - Cyprus, • "cz" - Czech Republic, • "de" - Germany, • "dj" - Djibouti, • "dk" - Denmark, • "dm" - Dominica, • "do" - Dominican Republic, • "dz" - Algeria, • "ec" - Ecuador, • "ee" - Estonia, • "eg" - Egypt, • "eh" - Western Sahara, • "er" - Eritrea, • "es" - Spain, • "et" - Ethiopia, • "fi" - Finland, • "fj" - Fiji, • "fk" - Falkland Islands (Malvinas), • "fm" - Micronesia, Federated States of, • "fo" - Faroe Islands, • "fr" - France, • "fx" - France Metropolitan, • "ga" - Gabon,

country		country-code optional	"gb" - United Kingdom, • "gd" - Grenada, • "ge" - Georgia, • "gf" - French Guiana, • "gh" - Ghana, • "gi" - Gibraltar, • "gl" - Greenland, • "gm" - Gambia, • "gn" - Guinea, • "gp" - Guadaloupe, • "gq" - Equatorial Guinea, • "gr" - Greece, • "gs" - South Georgia and the South Sandwich Islands, • "gt" - Guatemla, • "gu" - Guam, • "gw" - Guinea-Bissau, • "gy" - Guyana, • "hk" - China (Hong Kong S.A.R.), • "hm" - Heard and McDonald Islands, • "hn" - Honduras, • "hr" - Croatia, • "ht" - Haiti, • "hu" - Hungary, • "id" - Indonesia, • "ie" - Ireland, • "il" - Israel, • "in" - India, • "io" - British Indian Ocean Territory, • "iq" - Iraq, • "ir" - Iran, • "is" - Iceland, • "it" - Italy, • "jm" - Jamaica, • "jo" - Jordan, • "jp" - Japan, • "ke" - Kenya, • "kg" - Kyrgyzstan, • "kh" - Khmer Rep Cambodia, • "ki" - Kiribati, • "km" - Comoros, • "kn" - Saint Kitts and Nevis, • "kp" - Korea, Democratic People's Republic of (North Korea), • "kr" - Korea, Republic of (South Korea), • "kw" - Kuwait, • "ky" - Cayman Islands, • "kz" - Kazakhstan, • "la" - Lao People's Democratic Republic (Laos), • "lb" - Lebanon, • "lc" - Saint Lucia, • "li" - Liechtenstein, • "lk" - Sri Lanka, • "lr" - Liberia, • "ls" - Lesotho, • "lt" - Lithuania, • "lu" - Luxembourg, • "lv" - Latvia, • "ly" - Libyan Arab Jamahiriya (Lybia), • "ma" - Morocco, • "mc" - Monaco,

"md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,
- "sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,

			"sl" - Sierra Leone, • "sm" - San Marino, • "sn" - Senegal, • "so" - Somalia, • "sr" - Suriname, • "st" - Sao Tome and Principe, • "sv" - El Salvador, • "sy" - Syrian Arab Republic (Syria), • "sz" - Swaziland, • "t9" - Service Agent Test Systems T9 XX, • "tc" - Turks and Caicos Islands, • "td" - Chad, • "tf" - French Southern Territories, • "tg" - Togo, • "th" - Thailand, • "tj" - Tajikistan, • "tk" - Tokelau, • "tl" - East Timor, • "tm" - Turkmenistan, • "tn" - Tunisia, • "to" - Tonga, • "tr" - Turkey, • "tt" - Trinidad And Tobago, • "tv" - Tuvalu, • "tw" - Taiwan, • "tz" - Tanzania, • "ua" - Ukraine, • "ug" - Uganda, • "um" - United States Minor Outlying Islands, • "us" - United States, • "uy" - Uruguay, • "uz" - Uzbekistan, • "va" - Vatican City State (Holy See), • "vc" - Saint Vincent and the Grenadines, • "ve" - Venezuela, • "vg" - British Virgin Islands, • "vi" - Virgin Islands (U.S.), • "vn" - Vietnam, • "vu" - Vanuatu, • "wf" - Wallis and Futuna Islands, • "ws" - Samoa (Western), • "ye" - Yemen, • "yt" - Mayotte, • "yu" - Serbia, • "za" - South Africa, • "zm" - Zambia, • "zw" - Zimbabwe
primary-alt-phone		string optional	Alternate Phone Number of Primary Contact Attributes: non-creatable, modifiable
primary-email		string optional	Email Address or User ID of Primary Contact Attributes: non-creatable, modifiable
primary-name		string optional	Name of Primary Contact Attributes: non-creatable, modifiable
primary-phone		string optional	Phone Number of Primary Contact Attributes: non-creatable, modifiable
secondary-alt-phone		string optional	Alternate Phone Number of Secondary Contact Attributes: non-creatable, modifiable
secondary-		string	Email Address or User ID of Secondary Contact Attributes: non-

email		optional	creatable, modifiable
secondary-name		string optional	Name of Secondary Contact Attributes: non-creatable, modifiable
secondary-phone		string optional	Phone Number of Secondary Contact Attributes: non-creatable, modifiable
state		string optional	State Where Business Resides Attributes: non-creatable, modifiable
zip-code		string optional	Postal Code Where Business Resides Attributes: non-creatable, modifiable

Element definition: **cluster-create-add-node-status-info**

[top]

Information that identifies the state of a cluster create or node add operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-ip		ip-address optional	IP Address of a Cluster Interface of Node Attributes: non-creatable, non-modifiable
failure-msg		string optional	Error Reason Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Job ID of Join Job Attributes: non-creatable, non-modifiable
node-name		string optional	Node Name Attributes: key, non-creatable, non-modifiable
node-uuid		uuid optional	Node UUID Attributes: key, non-creatable, non-modifiable
status		cluster-op-status optional	The Status of Current Task Being Performed Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "starting_job" - Starting Add-Node Job, • "node_discovery" - Node Discovery, • "remote_join_started" - Job Started Remote Join Op, • "node_initialization" - Node Initialization, • "joining_cluster" - Joining Cluster, • "service_startup" - Service Startup, • "post_cluster_setup" - Post Cluster Setup, • "success" - Task Completed, • "failure" - Task Failed

Element definition: **cluster-create-join-progress-info**

[top]

Information that identifies the state or a create or join operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-status-message		string optional	The current status of the create or join operation being performed. Attributes: non-creatable, non-modifiable
is-complete		boolean optional	If this is true, it means that the operation has been successfully completed. If it is false, the state of the operation is determined by the status field Attributes: non-creatable, non-modifiable
status		cluster-op-enum-result optional	This field helps to determine the state of the operation when 'complete' is false. When complete is false and the status is success it indicates the operation hasn't started yet. Attributes: non-creatable, non-modifiable Possible values: • "failed" - Operation failed, • "success" - Operation was successful, • "ongoing" - Operation is active

Element definition: **cluster-identity-info**

[top]

Information that identifies a given cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-contact		string optional	The contact information for the cluster Attributes: non-creatable, modifiable
cluster-location		string optional	The location of the cluster Attributes: non-creatable, modifiable
cluster-name		cluster-name-simple optional	The textual name of the cluster Attributes: non-creatable, modifiable
cluster-serial-number		cluster-serial-number optional	Serial number of the cluster in the form x-xx-xxxxxx Attributes: non-creatable, non-modifiable

cluster-uuid		uuid optional	The 128-bit universally-unique identifier, that designates the cluster forever, assigned during cluster creation Attributes: non-creatable, non-modifiable
rdb-uuid		uuid optional	The 128-bit universally-unique identifier for the RDB Attributes: non-creatable, non-modifiable

Element definition: **cluster-log-forward-info**

[top]

Log file forwarding configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destination		remote-inet-address optional	Destination address that the log messages will be forwarded to. Can be a hostname or IP address. Attributes: key, required-for-create, non-modifiable
facility		syslog-facility optional	Facility code used to indicate the type of software that generated the message. Attributes: optional-for-create, modifiable Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3, • "local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
force		boolean optional	Skip the Connectivity Test Attributes: optional-for-create, non-modifiable
ipspace		string optional	The IP space of the destination to forward the message. Attributes: optional-for-create, modifiable
port	**[1..65535]**	integer optional	The destination port used to forward the message. Attributes: key, optional-for-create, non-modifiable
protocol		log-fwd-proto optional	Log Forwarding Protocol Attributes: optional-for-create, non-modifiable Possible values: • "udp_unencrypted" - UDP unencrypted, • "tcp_unencrypted" - TCP unencrypted, • "tcp_encrypted" - TCP encrypted
verify-server		boolean optional	Verify Destination Server Identity Attributes: optional-for-create, modifiable

Element definition: **cluster-log-forward-statistics**

[top]

Log file forwarding statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destination		remote-inet-address optional	Destination Host Attributes: key, non-creatable, non-modifiable
dropped-count	**[0..2^64-1]**	integer optional	Count of Dropped Messages Attributes: non-creatable, non-modifiable
facility		syslog-facility optional	Syslog Facility Attributes: non-creatable, non-modifiable Possible values: • "kern" - kernel messages, • "user" - user-level messages, • "local0" - local use 0, • "local1" - local use 1, • "local2" - local use 2, • "local3" - local use 3, • "local4" - local use 4, • "local5" - local use 5, • "local6" - local use 6, • "local7" - local use 7
failure-count	**[0..2^64-1]**	integer optional	Count of Forwarding Failures Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Destination Index Attributes: key, non-creatable, non-modifiable
last-error		string optional	Last Failure Reason Attributes: non-creatable, non-modifiable
last-success-time		datetimewithtz optional	Time of Last Message Forwarded Attributes: non-creatable, non-modifiable
log		string optional	Log Name Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
port	**[1..65535]**	integer optional	Destination Port Attributes: key, non-creatable, non-modifiable
queue-size	**[0..2^64-1]**	integer optional	Number of Messages in the Queue Attributes: non-creatable, non-modifiable
success-count	**[0..2^64-1]**	integer optional	Count of Forwarding Successes Attributes: non-creatable, non-modifiable
total-tx-failures	**[0..2^64-1]**	integer optional	Total Transmission Failures Attributes: non-creatable, non-modifiable

Element definition: **cluster-name-simple**

[top]

Name of the Cluster

[none]

Element definition: **cluster-node-info**

[top]

Information that identifies state of nodes in a cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-node-eligible		boolean optional	This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable
is-node-epsilon		boolean optional	You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable
is-node-healthy		boolean optional	This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The textual name of a node. Attributes: key, non-creatable, non-modifiable
node-uuid		node-uuid optional	The 128-bit universally-unique identifier, that designates a node forever, assigned during node creation. Attributes: non-creatable, non-modifiable

Element definition: **country-code**

[top]

Country Code Possible values:

- "99" - Unknown,
- "ad" - Andorra,
- "ae" - United Arab Emirates,
- "af" - Afghanistan,
- "ag" - Antigua and Barbuda,
- "ai" - Anguilla,
- "al" - Albania,

- "am" - Armenia,
- "an" - Netherlands Antilles,
- "ao" - Angola,
- "aq" - Antarctia,
- "ar" - Argentina,
- "as" - American Samoa,
- "at" - Austria,
- "au" - Australia,
- "aw" - Aruba,
- "az" - Azerbaijan,
- "ba" - Bosnia and Herzegovina,
- "bb" - Barbados,
- "bd" - Bangladesh,
- "be" - Belgium,
- "bf" - Burkina Faso,
- "bg" - Bulgaria,
- "bh" - Bahrain,
- "bi" - Burundi,
- "bj" - Benin,
- "bm" - Bermuda,
- "bn" - Brunei Darussalem,
- "bo" - Bolivia,
- "br" - Brazil,
- "bs" - Bahamas,
- "bt" - Bhutan,
- "bv" - Bouvet Island,
- "bw" - Botswana,
- "by" - Belarus,
- "bz" - Belize,
- "ca" - Canada,
- "cc" - Cocos (Keeling) Islands,
- "cd" - Congo, The Democratic Republic of the,
- "cf" - Central African Republic,
- "cg" - Congo,
- "ch" - Switzerland,
- "ci" - Cote d'Ivoire,
- "ck" - Cook Islands,
- "cl" - Chile,
- "cm" - Cameroon,
- "cn" - China,
- "co" - Colombia,
- "cr" - Costa Rica,
- "cu" - Cuba,
- "cv" - Cape Verde,
- "cx" - Christmas Island,
- "cy" - Cyprus,
- "cz" - Czech Republic,
- "de" - Germany,
- "dj" - Djibouti,
- "dk" - Denmark,
- "dm" - Dominica,
- "do" - Dominican Republic,
- "dz" - Algeria,
- "ec" - Ecuador,
- "ee" - Estonia,
- "eg" - Egypt,
- "eh" - Western Sahara,
- "er" - Eritrea,
- "es" - Spain,
- "et" - Ethiopia,

"fi" - Finland,
- "fj" - Fiji,
- "fk" - Falkland Islands (Malvinas),
- "fm" - Micronesia, Federated States of,
- "fo" - Faroe Islands,
- "fr" - France,
- "fx" - France Metropolitan,
- "ga" - Gabon,
- "gb" - United Kingdom,
- "gd" - Grenada,
- "ge" - Georgia,
- "gf" - French Guiana,
- "gh" - Ghana,
- "gi" - Gibraltar,
- "gl" - Greenland,
- "gm" - Gambia,
- "gn" - Guinea,
- "gp" - Guadaloupe,
- "gq" - Equatorial Guinea,
- "gr" - Greece,
- "gs" - South Georgia and the South Sandwich Islands,
- "gt" - Guatemla,
- "gu" - Guam,
- "gw" - Guinea-Bissau,
- "gy" - Guyana,
- "hk" - China (Hong Kong S.A.R.),
- "hm" - Heard and McDonald Islands,
- "hn" - Honduras,
- "hr" - Croatia,
- "ht" - Haiti,
- "hu" - Hungary,
- "id" - Indonesia,
- "ie" - Ireland,
- "il" - Israel,
- "in" - India,
- "io" - British Indian Ocean Territory,
- "iq" - Iraq,
- "ir" - Iran,
- "is" - Iceland,
- "it" - Italy,
- "jm" - Jamaica,
- "jo" - Jordan,
- "jp" - Japan,
- "ke" - Kenya,
- "kg" - Kyrgyzstan,
- "kh" - Khmer Rep Cambodia,
- "ki" - Kiribati,
- "km" - Comoros,
- "kn" - Saint Kitts and Nevis,
- "kp" - Korea, Democratic People's Republic of (North Korea),
- "kr" - Korea, Republic of (South Korea),
- "kw" - Kuwait,
- "ky" - Cayman Islands,
- "kz" - Kazakhstan,
- "la" - Lao People's Democratic Republic (Laos),
- "lb" - Lebanon,
- "lc" - Saint Lucia,
- "li" - Liechtenstein,
- "lk" - Sri Lanka,
- "lr" - Liberia,

"ls" - Lesotho,
- "lt" - Lithuania,
- "lu" - Luxembourg,
- "lv" - Latvia,
- "ly" - Libyan Arab Jamahiriya (Lybia),
- "ma" - Morocco,
- "mc" - Monaco,
- "md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,

"sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,
- "sl" - Sierra Leone,
- "sm" - San Marino,
- "sn" - Senegal,
- "so" - Somalia,
- "sr" - Suriname,
- "st" - Sao Tome and Principe,
- "sv" - El Salvador,
- "sy" - Syrian Arab Republic (Syria),
- "sz" - Swaziland,
- "t9" - Service Agent Test Systems T9 XX,
- "tc" - Turks and Caicos Islands,
- "td" - Chad,
- "tf" - French Southern Territories,
- "tg" - Togo,
- "th" - Thailand,
- "tj" - Tajikistan,
- "tk" - Tokelau,
- "tl" - East Timor,
- "tm" - Turkmenistan,
- "tn" - Tunisia,
- "to" - Tonga,
- "tr" - Turkey,
- "tt" - Trinidad And Tobago,
- "tv" - Tuvalu,
- "tw" - Taiwan,
- "tz" - Tanzania,
- "ua" - Ukraine,
- "ug" - Uganda,
- "um" - United States Minor Outlying Islands,
- "us" - United States,
- "uy" - Uruguay,
- "uz" - Uzbekistan,
- "va" - Vatican City State (Holy See),
- "vc" - Saint Vincent and the Grenadines,
- "ve" - Venezuela,
- "vg" - British Virgin Islands,
- "vi" - Virgin Islands (U.S.),
- "vn" - Vietnam,
- "vu" - Vanuatu,
- "wf" - Wallis and Futuna Islands,
- "ws" - Samoa (Western),
- "ye" - Yemen,
- "yt" - Mayotte,
- "yu" - Serbia,
- "za" - South Africa,
- "zm" - Zambia,
- "zw" - Zimbabwe

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **license-code-v2**

[top]

License Code V2

[none]

Element definition: **log-fwd-proto**

[top]

udp-unencrypted|tcp-unencrypted|tcp-encrypted Possible values:

- "udp_unencrypted" - UDP unencrypted,
- "tcp_unencrypted" - TCP unencrypted,
- "tcp_encrypted" - TCP encrypted

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

Element definition: **uri**

[top]

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **zoneinfo-info**

[top]

Timezone Zoneinfo Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
version		string optional	Version of the timezone database in the form YYYYv. \"YYYY\" is the year the database was released and \"v\" is the version within that year. \"YYYY\" will be four decimal digits and \"v\" will be an ASCII letter starting with \"a\" and increasing with each version. For example, the second 2017 version is \"2017b\". Attributes: non-creatable, modifiable

Element definition: **cluster-op-enum-result**

[top]

cluster_op_enum_result Possible values:

- "failed" - Operation failed,
- "success" - Operation was successful,
- "ongoing" - Operation is active

[none]

Element definition: **cluster-op-status**

[top]

Cluster Operation Status Possible values:

- "none" - None,
- "starting_job" - Starting Add-Node Job,
- "node_discovery" - Node Discovery,
- "remote_join_started" - Job Started Remote Join Op,
- "node_initialization" - Node Initialization,
- "joining_cluster" - Joining Cluster,
- "service_startup" - Service Startup,
- "post_cluster_setup" - Post Cluster Setup,
- "success" - Task Completed,
- "failure" - Task Failed

[none]

Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

Element definition: **datetimewithtz**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **node-uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **cluster-image**

cluster-image-get
cluster-image-get-download-progress
cluster-image-get-iter
cluster-image-get-upgrade-plan
cluster-image-metrocluster-update-progress-info-get
cluster-image-node-update-progress-info
cluster-image-package-delete
cluster-image-package-download
cluster-image-package-download-abort
cluster-image-package-local-get
cluster-image-package-local-get-iter
cluster-image-update
cluster-image-update-cancel
cluster-image-update-history-get-iter
cluster-image-update-log-get-iter
cluster-image-update-pause
cluster-image-update-progress-get-iter
cluster-image-update-progress-info
cluster-image-update-resume
cluster-image-validate

This set of APIs enable automated nondisruptive update of a cluster.

cluster-image-get

[top]

Get the attributes of the cluster-image.

Input Name	Range	Type	Description
desired-attributes		cluster-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-id		node-name	Node

Output Name	Range	Type	Description
attributes		cluster-image-info	The attributes of the cluster-image.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-image-get-download-progress

[top]

Check the progress of current image download started by the cluster-image-package-download ZAPI.

Output Name	Range	Type	Description
failure-reason		string optional	Reason for download failure. This field is deprecated in Data ONTAP 9.0.0 and may be removed in a future release.

progress-details		string optional	Download progress details
progress-status		cluster-image-download-status	Download Progress Status

Errno	Description
E_PRIMARY_STORE_UNAVAILABLE	
EINTERNALERROR	

cluster-image-get-iter

[top]

Iterate over a list of cluster-image objects.

Input Name	Range	Type	Description
desired-attributes		cluster-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-image-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-image-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-get-upgrade-plan

[top]

The cluster-image-get-upgrade-plan API generates an Upgrade Plan and Backout Plan for the specified target image. The target package-version must be provided.

Input Name	Range	Type	Description
package-version		string	Specifies the target package version.

Output Name	Range	Type	Description
backout-phase-info-list		phase-info[] optional	List of revert or downgrade plan phases.
backout-plan-head		string optional	Backout plan heading.
upgrade-phase-info-list		phase-info[] optional	List of upgrade plan phases.
upgrade-plan-head		string optional	Upgrade plan heading.

Errno	Description
E_CONF_NOT_SUPPORTED	
E_IMAGES_UNAVAILABLE	
E_RULES_XML_ERROR	
E_GET_PLAN_FAILED	
E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND	
E_PACKAGE_STORE_IS_EMPTY	
E_UPGRADE_PLAN_WITH_REVERT_IMAGE	

cluster-image-metrocluster-update-progress-info-get

[top]

Get information on cluster image update progress for MetroCluster

Input Name	Range	Type	Description
desired-attributes		metrocluster-ndu-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-ndu-progress-info	The attributes of the cluster-image.

Errno	Description
EINTERNALERROR	
E_UPDATE_NOT_IN_PROGRESS	

cluster-image-node-update-progress-info

[top]

Get information on a node's image update progress

Input Name	Range	Type	Description
desired-attributes		node-update-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	Node name.

Output Name	Range	Type	Description
attributes		node-update-progress-info	The attributes of the cluster-image.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	

cluster-image-package-delete

[top]

The cluster-image-package-delete API removes the given package from the cluster image package repository.

Input Name	Range	Type	Description
package-version		string	The package version to be deleted. Example of package versions - 8.3

Errno	Description
E_VALIDATION_IN_PROGRESS	
E_UPDATE_IN_PROGRESS	
E_PACKAGE_SYNCH_IN_PROGRESS	
E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND	
E_PACKAGE_STORE_IS_EMPTY	

cluster-image-package-download

[top]

The cluster-image-package-download API downloads the specified package. This API is asynchronous and returns immediately after the download is started. The download progress can be monitored by calling cluster-image-get-download-progress ZAPI. The package-url string must be provided.

Input Name	Range	Type	Description
package-url		string	Specifies the package URL.

Errno	Description
E_CAPABILITY_NOT_CLUSTERWIDE	
E_CAPABILITY_CHECK_FAILED	
E_PACKAGE_EXISTS	
E_INVALID_URL	
E_PACKAGE_PROCESS_ERROR	
E_PRIMARY_STORE_UNAVAILABLE	
E_INSUFFICIENT_STORES	

cluster-image-package-download-abort

[top]

Abort an ongoing package download operation.

Errno	Description
EINTERNALERROR	
E_PKG_DOWNLOAD_NOTRUNNING	

cluster-image-package-local-get

[top]

The cluster-image-package-local-get API retrieves detailed information about a package located in the cluster image package repository.

Input Name	Range	Type	Description
desired-attributes		cluster-image-package-local-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
package-version		string	Package version.

Output Name	Range	Type	Description

attributes		cluster-image-package-local-info	The attributes of the cluster-image.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-image-package-local-get-iter

[top]

Get multiple locally available package records

Input Name	Range	Type	Description
desired-attributes		cluster-image-package-local-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-image-package-local-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-image-package-local-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update

[top]

The cluster-image update API validates, installs prerequisite component updates, and installs Data ONTAP to all specified nodes within a cluster in a nondisruptive manner. Since validation, which is run as part of update, requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

Input Name	Range	Type	Description
estimate-only		boolean optional	Generates an estimate of the time required for the overall update operation for the specified package. No update is performed when this option is used. Default: false.
force-rolling		boolean optional	Force a rolling upgrade on the cluster. This option is not applicable for a single-node cluster and for a two-node MetroCluster. Default: false.
ignore-validation-warning		boolean optional	Allows the update to continue if warnings are encountered during the validation phase. Default: false.
nodes		node-name[] optional	List of nodes to be updated, the nodes have to be a part of a HA Pair.
package-version		string	Specifies the package version.
pause-after		non-disruptive-update-pause-after optional	One or more pause options can be specified. Possible values: none, all.

stabilize-minutes		integer optional	Number of minutes needed to stabilize node before update. This option is not applicable for single-node cluster. Default: 8.

Output Name	Range	Type	Description
estimated-post-update-duration		integer optional	Estimated post-update checks duration, in seconds. Available only if estimate-only is true.
estimated-pre-update-duration		integer optional	Estimated pre-update checks duration, in seconds. Available only if estimate-only is true.
estimated-update-duration		integer optional	Estimated ontap updates duration, in seconds. Available only if estimate-only is true.

Errno	Description
E_CAPABILITY_NOT_CLUSTERWIDE	
E_CAPABILITY_CHECK_FAILED	
E_UPDATE_IN_PROGRESS	
E_INVALID_HA_PAIR_LIST	
E_VALIDATION_CHECKS_FAILED_WITH_WARNING	
E_VALIDATION_CHECKS_FAILED_WITH_ERROR	
EINTERNALERROR	
E_DOUBLE_HOP_NODES_UNSUPPORTED	

cluster-image-update-cancel

[top]

The cluster-image-update-cancel API cancels a package update that is currently in progress. The update will stop and be canceled at the end of the current logical operation. Logical operations are: - After the cluster validation, or prerequisite update phase - After the update of each HA pair - Immediately, if the update is currently paused After the successful completion of this command the update will be removed from the package update queue. The cancellation will be logged in the update history.

Errno	Description
E_UPDATE_NOT_IN_PROGRESS	
E_CANCEL_NOT_POSSIBLE	

cluster-image-update-history-get-iter

[top]

Get multiple update history records.

Input Name	Range	Type	Description
desired-attributes		cluster-update-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-update-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-update-history-info[] optional	The list of attributes of cluster-image objects.

next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update-log-get-iter

[top]

Get multiple update logs

Input Name	Range	Type	Description
desired-attributes		cluster-update-transaction-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-update-transaction-log-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-update-transaction-log-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update-pause

[top]

The cluster-image-update-pause API pauses an update that is in progress. The update will pause at the end of the current logical operation. Logical operations include: - After the cluster validation, or prerequisite update phase - After the update of each node After the successful completion of this command the currently running update will be paused at the end of the current logical operation.

Errno	Description
E_UPDATE_NOT_IN_PROGRESS	
E_PAUSE_NOT_POSSIBLE	

cluster-image-update-progress-get-iter

[top]

This API provides the status of all phases of update that is in progress.

Input Name	Range	Type	Description
desired-attributes		cluster-image-ndu-phase-list-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-image-ndu-phase-list-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-image-ndu-phase-list-info[] optional	The list of attributes of cluster-image objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-image objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-image-update-progress-info

[top]

Get information on cluster image update progress

Input Name	Range	Type	Description
desired-attributes		ndu-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		ndu-progress-info	The attributes of the cluster-image.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-image-update-resume

[top]

The cluster-image-update-resume API resumes a package update that is currently paused. If the update is not in the paused state the API call will fail. After the successful completion of this command the current paused update will resume from the last successful operation completed.

Input Name	Range	Type	Description
ignore-post-update-checks-failures		boolean optional	Ignore post-update-check phase failures, if any. Default: false.
skip-firmware-update-checks		boolean optional	Skip Firmware Update Status Checks. Default: false.

Errno	Description
E_UPDATE_NOT_IN_PROGRESS	
E_RESUME_NOT_POSSIBLE	
E_PUC_NOT_IN_PROGRESS	

cluster-image-validate

[top]

The cluster-image-validate API validates the various logical and physical components of a cluster to ensure that a nondisruptive update can occur. Since validation requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

Input Name	Range	Type	Description
nodes		node-name[] optional	Nodes
package-version		string	Specifies the package version.

Output Name	Range	Type	Description
cluster-image-validation-report-list		cluster-image-validation-report-list-info[] optional	Lists the status and required actions for each NDU check involved in the update process.

Errno	Description
E_VERSION_NOT_SUPPORTED	
E_CAPABILITY_NOT_CLUSTERWIDE	
E_CAPABILITY_CHECK_FAILED	
E_VALIDATION_IN_PROGRESS	
E_PACKAGE_DELETE_IN_PROGRESS	
E_IMAGES_UNAVAILABLE	
E_MISSING_PARTNER_ERROR	
E_UPDATE_IN_PROGRESS	

Element definition: **cluster-image-download-status**

[top]

async_pkg_get_phase_failed|async_pkg_get_phase_running|async_pkg_get_phase_timedout|async_pkg_get_phase_notstarted|async_pkg_get_phase_complete|async_pkg_get_phase_aborted
Possible values:

- "async_pkg_get_phase_failed" - Download Failed,
- "async_pkg_get_phase_running" - Download in Progress,
- "async_pkg_get_phase_timedout" - Download Timedout,
- "async_pkg_get_phase_notstarted" - Download not started or no download in progress,
- "async_pkg_get_phase_complete" - Download Successful,
- "async_pkg_get_phase_aborted" - Download Aborted

[none]

Element definition: **cluster-image-info**

[top]

Information to manage cluster images for Non disruptive-update. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with

no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-version		string optional	Current Version Attributes: non-creatable, non-modifiable
date-installed		datetime optional	Date Installed Attributes: non-creatable, non-modifiable
node-id		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-image-ndu-phase-list-info**

[top]

Status and required recovery action for each phase of update process When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
duration		string optional	The estimated duration for phases not completed and actual duration for those completed in seconds. Attributes: non-creatable, non-modifiable
ndu-phase		non-disruptive-update-phase optional	Update phase Attributes: key, non-creatable, non-modifiable Possible values: • "validation" - NDU validation phase, • "prereq_updates" - NDU prerequisite phase, • "ontap_updates" - Data ONTAP update phase, • "package_management" - Package management operations phase, • "default_phase" - Default Phase, • "post_update_checks" - Post update checks phase
phase-comments		string optional	If an error has occurred the required recovery action. If the phase is completed the duration of the phase will be provided. Attributes: non-creatable, non-modifiable
phase-status		non-disruptive-update-status optional	Phase status Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending

Element definition: **cluster-image-package-local-info**

[top]

Detailed information on the local package When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
package-build-time		datetime optional	Package build time. Attributes: non-creatable, non-modifiable
package-details		package-details-info[] optional	Lists detailed on the local packages located in the cluster image package repository
package-version		string optional	Package version. Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-image-validation-report-list-info**

[top]

Lists the status and required actions for each NDU check involved in the update process. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ndu-check		string optional	Type of NDU check Attributes: key, non-creatable, non-modifiable
ndu-status		string optional	Phase status Possible values: ok failed warning Attributes: non-creatable, non-modifiable
required-action		required-action-info optional	If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update

Element definition: **cluster-update-history-info**

[top]

Detailed report for each update When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
completion-time		datetime optional	Date and time update completed. Attributes: non-creatable, non-modifiable
component-id		string optional	Component ID Attributes: key, non-creatable, non-modifiable
component-name		string optional	Component name Attributes: non-creatable, non-modifiable
package-version		string optional	Installed package version. Attributes: non-creatable, non-modifiable
previous-version		string optional	Previous version of firmware or software Attributes: non-creatable, non-modifiable
start-time		datetime optional	Date and time update started. Attributes: key, non-creatable, non-modifiable
update-status		non-disruptive-update-history-status optional	Update status. Attributes: non-creatable, non-modifiable Possible values: • "successful" - Update completed successfully, • "canceled" - Update was canceled, • "back_out" - A back-out occurred do to a unrecoverable error

updated-version		string optional	Updated version of firmware or software Attributes: non-creatable, non-modifiable

Element definition: **cluster-update-transaction-log-info**

[top]

Detailed report for each update transaction When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
component-id		node-name optional	Component ID. Attributes: key, non-creatable, non-modifiable
detailed-transaction-status		string optional	Includes sub-transaction name and detailed status Attributes: non-creatable, non-modifiable
start-date-time		datetime optional	Date and time update started Attributes: non-creatable, non-modifiable
transaction-id	[0..2^64-1]	integer optional	Unique transaction ID. Attributes: key, non-creatable, non-modifiable
transaction-name		non-disruptive-update-task-name optional	Transaction name. Attributes: key, non-creatable, non-modifiable Possible values: • "initialize" - Initialization, • "mount_image" - Mount an image, • "restart_hm" - Restart Health Monitor, • "get_health" - Obtain System Health, • "run_scripts" - Run validation sctipts, • "unmount_image" - Unmount image, • "clear_alert" - Clear Alerts, • "post_restart_hm" - Post validation restart Health Monitor, • "cleanup_rdb" - Removes all rows for a given phase, • "synch_image" - Synchronize Secondary Store with Primary, • "process_package" - Process the package retrieved from external source, • "cleanup_package" - Removes the packages not currently in the image table, • "do_download_job" - Downloads the image to the boot device, • "do_failover_job" - Do the takeover, • "do_giveback_job" - Do the giveback, • "check_progress" - Check the progress of any running tasks, • "complete_validation" - Generate the final validation report, • "invalid_task" - Used by state machine when a valid task cannot be found, • "default_task" - Default Task, • "do_postupdate_checks_job" - Do the post update checks, • "do_disruptive_update_task" - Do disruptive update of node
transaction-phase		non-disruptive-update-phase optional	Transaction phase Attributes: key, non-creatable, non-modifiable Possible values: • "validation" - NDU validation phase, • "prereq_updates" - NDU prerequisite phase, • "ontap_updates" - Data ONTAP update phase, • "package_management" - Package management operations phase, • "default_phase" - Default Phase, • "post_update_checks" - Post update checks phase
transaction-status		non-disruptive-update-log-status	Update status Attributes: non-creatable, non-modifiable Possible values: • "waiting" - Transaction is waiting, • "started" - Transaction was started, • "completed" - Transaction has completed, • "paused_on_error" - Transaction has been paused due to an error,

		optional	• "paused_by_user" - Transaction has been paused by user, • "pause_pending" - Transaction has a pending pause request, • "cancel_pending" - Transaction has a pending cancel request, • "canceled" - Transaction has been canceled by user, • "failed" - Transaction has failed

Element definition: **metrocluster-ndu-progress-info**

[top]

Nondisruptive Update Progress Info of MetroCluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
completed-node-count	**[0..2^32-1]**	integer optional	Number of Completed Nodes Attributes: non-creatable, non-modifiable
dr-validation-reports		dr-validation-report-info[] optional	DR cluster Validation Report Info
intermediate-version		string optional	The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable
is-two-stage-upgrade		boolean optional	If upgrade is two-stage. Attributes: non-creatable, non-modifiable
is-validation-done-by-update		boolean optional	Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable
metrocluster		cluster-image-metrocluster-info optional	MetroCluster Information
ndu-node-update-list		ndu-node-update-info[] optional	Nondisruptive Update Progress Info of Node
node-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable
overall-elapsed-duration	**[0..2^32-1]**	integer optional	Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable
overall-estimated-duration	**[0..2^32-1]**	integer optional	Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable
overall-status		string optional	Status of overall update. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
package-version		string optional	The package version. Attributes: non-creatable, non-modifiable
paused-node-count	**[0..2^32-1]**	integer optional	Number of Paused Nodes Attributes: non-creatable, non-modifiable
phase-comments		phase-comment-info optional	Overall comment info
		string	

progress-detail		optional	Failure details Attributes: non-creatable, non-modifiable
progress-summary		string optional	Progress info Attributes: non-creatable, non-modifiable
source-version		string optional	The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable
target-version		string optional	The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable
total-node-count	**[0..2^32-1]**	integer optional	Number of Nodes Attributes: non-creatable, non-modifiable
upgrade-stage	**[1..2]**	integer optional	Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable
validation-reports		validation-report-info[] optional	Local cluster Validation Report Info

Element definition: **ndu-progress-info**

[top]

Nondisruptive Update Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
completed-node-count	**[0..2^32-1]**	integer optional	Number of nodes that have completed update. Attributes: non-creatable, non-modifiable
intermediate-version		string optional	The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable
is-two-stage-upgrade		boolean optional	If upgrade is two-stage. Attributes: non-creatable, non-modifiable
is-validation-done-by-update		boolean optional	Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable
ndu-node-update-list		ndu-node-update-info[] optional	Nondisruptive Update Progress Info of a Node
node-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable
overall-elapsed-duration	**[0..2^32-1]**	integer optional	Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable
overall-estimated-duration	**[0..2^32-1]**	integer optional	Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable
overall-status		non-disruptive-update-status optional	Status of overall update. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
package-version		string optional	The package version. Attributes: non-creatable, non-modifiable
paused-node-count	**[0..2^32-1]**	integer optional	Number of nodes that have paused during update. Attributes: non-creatable, non-modifiable

phase-comments		phase-comment-info optional	Overall comment info
source-version		string optional	The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable
target-version		string optional	The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable
total-node-count	**[0..2^32-1]**	integer optional	Number of nodes participating in update operation. Attributes: non-creatable, non-modifiable
upgrade-stage	**[1..2]**	integer optional	Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable
validation-reports		validation-report-info[] optional	Validation Report Info

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-update-progress-info**

[top]

Node Update progress details When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node-name		string optional	Node name. Attributes: key, non-creatable, non-modifiable
node-update-task-info-list		node-update-task-info[] optional	Node task info

Element definition: **non-disruptive-update-pause-after**

[top]

none|takeover-giveback|all Possible values:

- "none" - Default: No pause,
- "takeover_giveback" - Pause after takeover or giveback tasks,
- "all" - Pause after all phases

[none]

Element definition: **phase-info**

[top]

Upgrade or revert procedure can have planning, preparing, update and post-update phases. Each phase will have the phase details and list of steps.

Name	Range	Type	Description
phase-detail		string optional	Phase details.
phase-head		string optional	Phase heading.
phase-notes		string optional	Phase notes.
step-info-list		step-info[] optional	List of steps in the respective phase.

Element definition: **cluster-image-metrocluster-info**

[top]

MetroCluster Configuration Information

Name	Range	Type	Description
cluster-elapsed-duration	**[0..2^32-1]**	integer optional	Elapsed amount of time, in seconds, used for the update in local cluster. Attributes: non-creatable, non-modifiable
cluster-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update in local cluster. Attributes: non-creatable, non-modifiable
cluster-name		string optional	Name of the local cluster. Attributes: non-creatable, non-modifiable
cluster-status		string optional	Status of the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
dr-cluster-elapsed-duration	**[0..2^32-1]**	integer optional	Elapsed amount of time, in seconds, used for the update in DR cluster. Attributes: non-creatable, non-modifiable
dr-cluster-estimated-duration	**[0..2^32-1]**	integer optional	Estimated amount of time, in seconds, required for the update in DR cluster. Attributes: non-creatable, non-modifiable
dr-cluster-name		string optional	Name of the DR cluster. Attributes: non-creatable, non-modifiable
dr-cluster-status		string optional	Status of the DR cluster. Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **dr-validation-report-info**

[top]

DR Validation Info

Name	Range	Type	Description
dr-update-check-action		string optional	DR cluster recovery action for error. Attributes: non-creatable, non-modifiable
dr-update-check-advice		string optional	DR cluster advice for handling the error. Attributes: non-creatable, non-modifiable
dr-update-check-error		string optional	DR cluster error details. Attributes: non-creatable, non-modifiable
dr-update-check-name		string optional	DR cluster update check Attributes: non-creatable, non-modifiable
dr-update-check-status		string optional	DR cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable

Element definition: **ndu-node-update-info**

[top]

Nondisruptive Update Progress Info of Node

Name	Range	Type	Description
dr-node-elapsed-duration		timeticks optional	Elapsed Update Duration of a DR Node Attributes: non-creatable, non-modifiable
dr-node-name		node-name optional	DR Node Name Attributes: non-creatable, non-modifiable
dr-node-status		non-disruptive-update-status optional	DR Node Status Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending
node-elapsed-duration		timeticks optional	Elapsed amount of time, in seconds, used for the update of a node. Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node Name Attributes: non-creatable, non-modifiable
node-status		non-disruptive-update-status optional	Node Status Attributes: non-creatable, non-modifiable Possible values: • "in_progress" - Upgrade phase is in progress, • "waiting" - Upgrade phase is waiting, • "paused_by_user" - Upgrade phase paused by user, • "paused_on_error" - Upgrade phase paused due to error, • "completed" - Upgrade phase completed, • "canceled" - Upgrade phase canceled, • "failed" - Upgrade phase failed, • "pause_pending" - Upgrade phase pause pending, • "cancel_pending" - Upgrade phase cancel pending

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-update-task-info**

[top]

Node task info

Name	Range	Type	Description
task-comments		string optional	Summary of task operation. Attributes: non-creatable, non-modifiable
task-end-time		datetime optional	Time at which the task completed. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable
task-name		string optional	Name of the task. Attributes: non-creatable, non-modifiable
task-start-time		datetime optional	Time at which the task started. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable
task-status		non-disruptive-update-task-status optional	Status of the associated task-name. Attributes: non-creatable, non-modifiable Possible values: • "created" - Task has been created, • "ready_to_run" - Task ready to run, • "running" - Task has started and is running, • "completed" - Task is completed, • "failed" - Task failed to complete, • "pause_req" - Request for task to be paused, • "paused" - Task is paused, • "paused_error" - Task is paused because of an error, • "cancel_req" - Request for task to be cancelled, • "canceled" - Task is canceled, • "resume_req" - Request for paused task to be resumed, • "default_status" - Defaiult Status, • "abort_req" - Request for task to be aborted

Element definition: **non-disruptive-update-history-status**

[top]

successful|canceled|back-out Possible values:

- "successful" - Update completed successfully,
- "canceled" - Update was canceled,
- "back_out" - A back-out occurred do to a unrecoverable error

[none]

Element definition: **non-disruptive-update-log-status**

[top]

waiting|started|completed|paused-on-error|paused-by-user|pause-pending|cancel-pending|canceled|failed Possible values:

- "waiting" - Transaction is waiting,

- "started" - Transaction was started,
- "completed" - Transaction has completed,
- "paused_on_error" - Transaction has been paused due to an error,
- "paused_by_user" - Transaction has been paused by user,
- "pause_pending" - Transaction has a pending pause request,
- "cancel_pending" - Transaction has a pending cancel request,
- "canceled" - Transaction has been canceled by user,
- "failed" - Transaction has failed

[none]

Element definition: **non-disruptive-update-phase**

[top]

validation|prereq-updates|ontap-updates|package-management|default-phase|post-update-checks Possible values:

- "validation" - NDU validation phase,
- "prereq_updates" - NDU prerequisite phase,
- "ontap_updates" - Data ONTAP update phase,
- "package_management" - Package management operations phase,
- "default_phase" - Default Phase,
- "post_update_checks" - Post update checks phase

[none]

Element definition: **non-disruptive-update-status**

[top]

in-progress|waiting|paused-by-user|paused-on-error|completed|canceled|failed|pause-pending|cancel-pending Possible values:

- "in_progress" - Upgrade phase is in progress,
- "waiting" - Upgrade phase is waiting,
- "paused_by_user" - Upgrade phase paused by user,
- "paused_on_error" - Upgrade phase paused due to error,
- "completed" - Upgrade phase completed,
- "canceled" - Upgrade phase canceled,
- "failed" - Upgrade phase failed,
- "pause_pending" - Upgrade phase pause pending,
- "cancel_pending" - Upgrade phase cancel pending

[none]

Element definition: **non-disruptive-update-task-name**

[top]

initialize|mount-image|restart-hm|get-health|run-scripts|unmount-image|clear-alert|post-restart-hm|cleanup-rd|synch-image|do-download-job|do-failover-job|do-giveback-job|check-progress|complete-validation|invalid-task|default-task|do-postupdate-checks-task Possible values:

- "initialize" - Initialization,
- "mount_image" - Mount an image,
- "restart_hm" - Restart Health Monitor,
- "get_health" - Obtain System Health,
- "run_scripts" - Run validation sctipts,
- "unmount_image" - Unmount image,
- "clear_alert" - Clear Alerts,
- "post_restart_hm" - Post validation restart Health Monitor,
- "cleanup_rdb" - Removes all rows for a given phase,

- "synch_image" - Synchronize Secondary Store with Primary,
- "process_package" - Process the package retrieved from external source,
- "cleanup_package" - Removes the packages not currently in the image table,
- "do_download_job" - Downloads the image to the boot device,
- "do_failover_job" - Do the takeover,
- "do_giveback_job" - Do the giveback,
- "check_progress" - Check the progress of any running tasks,
- "complete_validation" - Generate the final validation report,
- "invalid_task" - Used by state machine when a valid task cannot be found,
- "default_task" - Default Task,
- "do_postupdate_checks_job" - Do the post update checks,
- "do_disruptive_update_task" - Do disruptive update of node

[none]

Element definition: **package-details-info**

[top]

Lists detailed on the local packages located in the cluster image package repository

Name	Range	Type	Description
component-name		string optional	Name of the given component. Attributes: non-creatable, non-modifiable
component-version		string optional	The software version number of the given component. Attributes: non-creatable, non-modifiable

Element definition: **phase-comment-info**

[top]

Overall comment

Name	Range	Type	Description
post-update-checks-phase-comments		string optional	Post Update Check Phase Comments Attributes: non-creatable, non-modifiable
update-phase-comments		string optional	Summary of update operation. Attributes: non-creatable, non-modifiable
validation-phase-comments		string optional	Summary of validation operation. Attributes: non-creatable, non-modifiable

Element definition: **required-action-info**

[top]

If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update

Name	Range	Type	Description
action		string optional	Recovery action for error. Attributes: non-creatable, non-modifiable
advice		string optional	Advice for handling the error. Attributes: non-creatable, non-modifiable
error		string optional	Error description. Attributes: non-creatable, non-modifiable

Element definition: **step-info**

[top]

A prepare step, upgrade/revert step or post upgrade step based on the phase.

Name	Range	Type	Description
step-command		string optional	A CLI command associated with the step.
step-detail		string optional	Step details.
step-example		string optional	An example associated with the step.
step-name		string optional	Step heading or name.
step-notes		string optional	Any notes associated with the step.

Element definition: **validation-report-info**

[top]

Validation Info

Name	Range	Type	Description
update-check-action		string optional	Local cluster recovery action for error. Attributes: non-creatable, non-modifiable
update-check-advice		string optional	Local cluster advice for handling the error. Attributes: non-creatable, non-modifiable
update-check-error		string optional	Local cluster error details. Attributes: non-creatable, non-modifiable
update-check-name		string optional	Local cluster update check Attributes: non-creatable, non-modifiable
update-check-status		string optional	Local cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **non-disruptive-update-task-status**

[top]

created|ready-to-run|running|completed|failed|pause_req|paused|paused-error|cancel_req|canceled|resume_req|default_status Possible values:

- "created" - Task has been created,
- "ready_to_run" - Task ready to run,
- "running" - Task has started and is running,
- "completed" - Task is completed,
- "failed" - Task failed to complete,
- "pause_req" - Request for task to be paused,
- "paused" - Task is paused,
- "paused_error" - Task is paused because of an error,
- "cancel_req" - Request for task to be cancelled,

"canceled" - Task is canceled,
- "resume_req" - Request for paused task to be resumed,
- "default_status" - Defaiult Status,
- "abort_req" - Request for task to be aborted

[none]

Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

APIs in Category: **cluster-peer**

cluster-peer-authn-offer-cancel
cluster-peer-authn-offer-get
cluster-peer-authn-offer-get-iter
cluster-peer-authn-offer-modify
cluster-peer-connection-destroy
cluster-peer-connections-get
cluster-peer-connections-get-iter
cluster-peer-create
cluster-peer-delete
cluster-peer-get
cluster-peer-get-iter
cluster-peer-health-info-get
cluster-peer-health-info-get-iter
cluster-peer-modify
cluster-peer-modify-local-name
cluster-peer-ping-iter
cluster-peer-policy-get
cluster-peer-policy-modify

This set of ZAPIs allows management of cluster peer relationships. Cluster peer relationships are required to allow multiple Data ONTAP clusters to exchange data with other Data ONTAP clusters and request operations to be executed by other Data ONTAP clusters.

cluster-peer-authn-offer-cancel

[top]

Cancel the outstanding offer to authenticate with a peer cluster

Input Name	Range	Type	Description
peer-cluster-name		string	Peer Cluster Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-authn-offer-get

[top]

Return the specified peer cluster relationship authentication offer information

Input Name	Range	Type	Description
desired-attributes		cluster-peer-authn-offer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-cluster-name		string	Peer Cluster Name

Output Name	Range	Type	Description
attributes		cluster-peer-authn-offer	The attributes of the cluster-peer-authn-offer.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-authn-offer-get-iter

[top]

Returns a list of cluster peer relationship authentication offers

Input Name	Range	Type	Description
desired-attributes		cluster-peer-authn-offer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-authn-offer optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-authn-offer object. All cluster-peer-authn-offer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-authn-offer[] optional	The list of attributes of cluster-peer-authn-offer objects.
next-tag		string	Tag for the next call. Not present when there are no more cluster-

		optional	peer-authn-offer objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-authn-offer-modify

[top]

Modifies the cluster peer relationship authentication offer, as created by the cluster-peer-create or cluster-peer-modify APIs.

Input Name	Range	Type	Description
initial-allowed-vserver-peers		vserver-name[] optional	Vservers Initially Allowed for Peering
offer-expiration		expiration optional	The expiration time of the authentication offer.
peer-cluster-name		string	The name of the peer cluster to modify.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-connection-destroy

[top]

Terminate a current peering connection

Input Name	Range	Type	Description
connection-type		cluster-peer-connection-type	The type of connection for cluster peering.
file-descriptor	**[0..2^64-1]**	integer	The index value for the connection.
node-name		node-name	The name of the node that has the connections involved.
peer-cluster-name		string	The name of the peer cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-connections-get

[top]

Return information about the specified connection to the specified cluster peer

Input Name	Range	Type	Description
connection-type		cluster-peer-connection-type	The type of connection for cluster peering.
desired-attributes		cluster-peer-connections optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
file-descriptor	**[0..2^64-1]**	integer	The index value for the connection.
node-name		node-name	The name of the node that has the connections involved.
peer-cluster-name		string	The name of the peer cluster.

Output Name	Range	Type	Description
attributes		cluster-peer-connections	The attributes of the cluster-peer-connections.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-connections-get-iter

[top]

Returns a list of connections to cluster peers

Input Name	Range	Type	Description
desired-attributes		cluster-peer-connections optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-connections optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-connections object. All cluster-peer-connections objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-connections[] optional	The list of attributes of cluster-peer-connections objects.

next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer-connections objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-create

[top]

Create a cluster peer relationship and, optionally, an offer to authenticate with a peer. Initiate an authenticated relationship, and an offer to authenticate with a peer, by including the passphrase parameter. Initiate an unauthenticated relationship by omitting the passphrase and, optionally, including a user-name and password.

Input Name	Range	Type	Description
address-family		cluster-peer-address-family optional	The address family (IPv4/IPv6) of the peer cluster connection. If not provided and ambiguity between IPv4 and IPv6 exists, the peer connection address family will default to IPv4. Default: ipv4
applications		vserver-peer-permission-application[] optional	List of peering applications for initial allowed vservers.
encryption-protocol-proposed		cluster-peer-crypt optional	Encryption protocol to be used for inter-cluster communication. Default: tls-psk when authentication is used, otherwise none
generate-passphrase		boolean optional	Use System-Generated passphrase
initial-allowed-vserver-peers		vserver-name[] optional	Vservers allowed for auto peering
ipspace-name		string optional	IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace
local-name		cluster-name-simple optional	Local name for remote cluster. Default: Remote cluster name
offer-expiration		expiration optional	If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future
passphrase		string optional	The arbitrary passphrase that matches the one given to the peer cluster.
password		string optional	The password required to authenticate with the peer cluster. This value is only used at peer creation time and not stored.
peer-addresses		remote-inet-address[] optional	The remote intercluster addresses and hostnames of the peer cluster.
rpc-connect-timeout		integer optional	The timeout for RPC Connect attempts to the peer cluster in seconds. Default: 10
		integer	The timeout for operations in the peer cluster in seconds. Default:

timeout		optional	15
update-ping-timeout		integer optional	The timeout used by ICMP pings while updating peer cluster information in seconds. Default: 5
user-name		string optional	The user name required to authenticate with the peer cluster. This value is only used at peer creation time and not stored.

Output Name	Range	Type	Description
passphrase-info		cluster-peer-passphrase-info optional	Cluster Peer Create Passphrase Information

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EAUTHENTICATION_REQUIRED_BY_POLICY	
EPEER_INTRO_FAILED	
EPEER_PROBE_FAILED	
EPEER_CONCUR_FAILED	
EPEER_INTRO_CONNECT_FAILED	
EPEER_PROBE_CONNECT_FAILED	
EPEER_CONCUR_CONNECT_FAILED	
EPEER_ADDR_MISMATCH_WITH_EXISTING	
EPEER_NO_LOCAL_VIF_FAMILY	
EPEER_CREATE_FAMILY_MISMATCH	
EPEER_PEER_ADDR_FAMILY_MISMATCH	
EPEER_VERSION_MISMATCH	
EPEER_DUPLICATE_PEER_NAME	
EPEER_INVALID_CREATE_ADDRESS_FAMILY_INTRO	
EPEER_INVALID_CREATE_ADDRESS_FAMILY	
EPEER_REMOTE_CREATE_FAMILY_MISMATCH	
EPEER_REMOTE_NO_LOCAL_VIF_FAMILY	
EPEER_INVALID_ADDRESS_FAMILY	
EPEER_REMOTE_SAME_CLUSTER_DIFFERENT_FAMILY	
EPEER_PASSPHRASE_USED_OR_EXPIRED	
EPEER_PASSPHRASE_AUTH_DELAY	
EPEER_PASSPHRASE_SUCCESS	
EPEER_MISSING_INPUT_PARAMETER	
EPEER_VSERVER_NOT_FOUND	
EPEER_EXPIRATION_EXCEEDED_MAX_LIMIT	
EPEER_PASSPHRASE_OFFER_LIMIT_MINIMUM	
EPEER_WITHOUT_IP_AND_AUTO_GEN_PASSPHRASE	
EPEER_PASSPHRASE_CAP_NOT_ENABLED	
EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION	
EPEER_PASSPHRASE_DUPLICATE_LOCAL_NAME	
EPEER_RMT_AUTO_RECIPROCAL_SUPPORT_NOT_AVAILABLE	
EPEER_ENCRYPTION_INCAPABLE_REMOTELY	
EPEER_ENCRYPTION_VETOED_REMOTELY	

EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE	
EPEER_NEED_AUTH_FOR_ENCR	
EPEER_POLICY_FORBIDS_UNAUTH	
EPEER_POLICY_REQUIRES_ENCRYPTION	

cluster-peer-delete

[top]

Delete a cluster peer relationship as well as any an offer to authenticate with the peer cluster.

Input Name	Range	Type	Description
cluster-name		string	The name of the peer cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-peer-get

[top]

Return the specified peer cluster relationship information

Input Name	Range	Type	Description
cluster-name		string	The name of the peer cluster. Available in the local cluster.
desired-attributes		cluster-peer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-peer-info	The attributes of the cluster-peer.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-get-iter

[top]

Returns a list of cluster peer relationships

Input Name	Range	Type	Description
		cluster-	Specify the attributes that should be returned. If not present, all

desired-attributes		peer-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-info[] optional	The list of attributes of cluster-peer objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-health-info-get

[top]

Get the health of the specified peer node

Input Name	Range	Type	Description
desired-attributes		cluster-peer-health-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-cluster		cluster-name	The name of the peer cluster.
destination-node		peer-node-name	The name of the node in the peer cluster.
originating-node		node-name	The name of the local node.

Output Name	Range	Type	Description
attributes		cluster-peer-health-info	The attributes of the cluster-peer.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-health-info-get-iter

[top]

Get the health of all local and peer nodes sequentially

Input Name	Range	Type	Description
desired-attributes		cluster-peer-health-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-health-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-health-info[] optional	The list of attributes of cluster-peer objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-modify

[top]

Modifies a cluster peer relationship, optionally also creating an offer to authenticate with a peer.

Input Name	Range	Type	Description
address-family		address-family optional	The address family of the peer-addresses of the relationship. If not specified, either the specified peer-address or the current peer-address is used to derive the address family.
		cluster-peer-	

auth-status-admin		auth-status-admin optional	The desired state of authentication for the relationship. If not specified, the desired state is not modified.
cluster-name		string	The name of the peer cluster to modify.
encryption-protocol-proposed		cluster-peer-crypt optional	Encryption protocol to be used for inter-cluster communication. If not specified, the encryption-protocol attribute is not modified.
generate-passphrase		boolean optional	Use system-generated passphrase
ipspace-name		string optional	IPspace in which the LIFs for this relationship exist. If not specified, the IPspace for the relationship is not modified.
offer-expiration		expiration optional	For auth-status-admin 'use-authentication', the expiration time of the authentication offer. Should not be provided otherwise.
passphrase		string optional	For auth-status-admin 'use-authentication', this must be provided as the arbitrary passphrase that matches the one given to the peer cluster. Should not be provided otherwise.
peer-addresses		remote-inet-address[] optional	The Remote IP address or host name of the peer cluster. If not specified, the peer-addresses are not modified.
rpc-connect-timeout		integer optional	The timeout for RPC Connect calls to the peer cluster in seconds. If not specified, the timeout is not modified.
timeout		integer optional	The timeout for operations in the peer cluster in seconds. If not specified, the timeout is not modified.
update-ping-timeout		integer optional	The timeout for pings to the peer cluster in seconds. If not specified, the timeout is not modified.

Output Name	Range	Type	Description
passphrase-info		cluster-peer-passphrase-info-modify optional	Cluster Peer Create Passphrase Information

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EAUTHENTICATION_REQUIRED_BY_POLICY	
EPEER_INTRO_FAILED	
EPEER_PROBE_FAILED	
EPEER_CONCUR_FAILED	
EPEER_INTRO_CONNECT_FAILED	
EPEER_PROBE_CONNECT_FAILED	
EPEER_CONCUR_CONNECT_FAILED	
EPEER_MODIFY_FAMILY_MISMATCH	
EPEER_VERSION_MISMATCH	
EPEER_REMOTE_NO_LOCAL_VIF_FAMILY	
EPEER_IC_FAMILY_LIFS_NOT_FOUND	
EPEER_PASSPHRASE_MODIFY_NOT_ALLOWED	
EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION	
EPEER_ENCRYPTION_INCAPABLE_REMOTELY	
EPEER_ENCRYPTION_VETOED_REMOTELY	
EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE	

EPEER_NEED_AUTH_FOR_ENCR	
EPEER_POLICY_FORBIDS_UNAUTH	
EPEER_POLICY_REQUIRES_ENCRYPTION	
EPEER_CHANGING_ENCR_REQUIRES_CHANGING_AUTH	

cluster-peer-modify-local-name

[top]

Modify the local name for a cluster peer.

Input Name	Range	Type	Description
cluster-name		string	The name of the peer cluster to modify.
new-name		cluster-name-simple	The new local name for the peer cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-peer-ping-iter

[top]

Ping the specified peer nodes. Ping operations take place between a node in a cluster and a node in a remote cluster. The originating node is the node which initiates the ping operation and the destination cluster and node specify the remote node which is the target of the ping.

Input Name	Range	Type	Description
desired-attributes		cluster-peer-ping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-peer-ping-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-ping object. All cluster-peer-ping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-peer-ping-info[] optional	The list of attributes of cluster-peer-ping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more cluster-peer-ping objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-peer-policy-get

[top]

Return the cluster peering policy configuration.

Input Name	Range	Type	Description
desired-attributes		cluster-peer-policy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-peer-policy	The attributes of the cluster-peer-policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

cluster-peer-policy-modify

[top]

Modify the cluster peering policy configuration.

Input Name	Range	Type	Description
is-unauthenticated-access-permitted		boolean optional	Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted.
is-unencrypted-access-permitted		boolean optional	Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted.
passphrase-minlength		integer optional	Minimum length for a passphrase, integer in [0..1500].

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EPEER_POLICY_CANNOT_REQUIRE_ENCRYPTION	

Element definition: **address-family** [top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

Element definition: **cluster-name-simple** [top]

Name of the Cluster

[none]

Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

Element definition: **cluster-peer-authn-offer** [top]

Authentication Offers to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
auth-status-admin		cluster-peer-auth-status-admin optional	Authentication Status Administrative Attributes: non-creatable, non-modifiable
auth-status-operational		cluster-peer-auth-status-operational optional	Authentication Status Operational Attributes: non-creatable, non-modifiable
encryption-protocol-proposed		cluster-peer-crypt optional	Encryption Protocol to Be Used For the Relationship Attributes: non-creatable, non-modifiable Possible values: • "none" - Encryption Off, • "tls_psk" - Use TLS With PSK
initial-allowed-vserver-peers		vserver-name[] optional	Vservers Initially Allowed for Peering Attributes: non-creatable, modifiable
offer-creation		datetime optional	Authentication Offer Creation Time Attributes: non-creatable, non-modifiable
offer-expiration		expiration optional	Authentication Offer Expiration Time Attributes: non-creatable, modifiable
peer-cluster-name		string optional	Peer Cluster Name Attributes: key, non-creatable, non-modifiable
peer-cluster-uuid		uuid optional	Cluster UUID Attributes: non-creatable, non-modifiable

Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

Element definition: **cluster-peer-connections**

[top]

Connections Established to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	The remote network address for this connection. Attributes: non-creatable, non-modifiable
auth-status-admin		cluster-peer-auth-status-admin optional	The desired status for the authentication of the peer relationship, according to this cluster. Attributes: non-creatable, non-modifiable
auth-status-operational		cluster-peer-auth-status-operational optional	The actual status of the authentication interaction with the peer cluster. Attributes: non-creatable, non-modifiable
authenticated		boolean optional	Whether the client has authenticated itself to the peer cluster on this connection. Attributes: non-creatable, non-modifiable
connection-type		cluster-peer-connection-type optional	The type of connection for cluster peering. Attributes: key, non-creatable, non-modifiable
file-descriptor	**[0..2^64-1]**	integer optional	The index value for the connection. Attributes: key, non-creatable, non-modifiable
idle-time		time-interval optional	The time since the most recent call, in seconds. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The name of the node that has the connections involved. Attributes: key, non-creatable, non-modifiable
peer-cluster-name		string optional	The name of the peer cluster. Attributes: key, non-creatable, non-modifiable
peer-cluster-uuid		uuid optional	The UUID of the peer cluster. Attributes: non-creatable, non-modifiable
port	**[0..2^32-1]**	integer optional	The Internet port to which this file descriptor provides service. Attributes: non-creatable, non-modifiable
psk-algorithm		cluster-peer-keyalgo optional	Algorithm that produced the PSK. Attributes: non-creatable, non-modifiable Possible values: • "akep2" - akep2, • "jpake" - j-pake
rpc-procedure	**[0..2^32-1]**	integer optional	The number of the RPC procedure called most recently on this file descriptor. Attributes: non-creatable, non-modifiable
rpc-program	**[0..2^32-1]**	integer optional	The RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable
rpc-version	**[0..2^32-1]**	integer optional	The version of the RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable
tls-type		conn-kind optional	The kind of TLS connection. Attributes: non-creatable, non-modifiable Possible values: • "unk" - State unknown, • "none" - No TLS, • "psk" - TLS based on a Pre-Shared Key, • "cert" - TLS based on a Certificate
uniquifier	**[0..2^64-1]**	integer optional	The uniquifier of the associated session. Attributes: non-creatable, non-modifiable

Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

Element definition: **cluster-peer-health-info**

[top]

Cluster Peer Health Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bypass-cache		boolean optional	When false, do not use cached results. Cached results may not be current, but they may be retrieved quickly. Attributes: non-creatable, non-modifiable
data-ping		peer-ping-status optional	The status of the data ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values: • "unknown_node" - Unknown Node, • "internal_error" - Internal Error, • "unreachable" - Unreachable, • "session_reachable" - Session Reachable, • "interface_reachable" - Interface Reachable, • "address_family_mismatch" - Address Family Mismatch
destination-cluster		cluster-name optional	The name of the peer cluster. Attributes: key, non-creatable, non-modifiable
destination-cluster-uuid		string optional	The UUID of the peer cluster. Attributes: non-creatable, non-modifiable
destination-node		peer-node-name optional	The name of the node in the peer cluster. Attributes: key, non-creatable, non-modifiable
		peer-	The status of ICMP ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values: • "unknown_node" - Unknown Node,

icmp-ping		ping-status optional	• "internal_error" - Internal Error, • "unreachable" - Unreachable, • "session_reachable" - Session Reachable, • "interface_reachable" - Interface Reachable, • "address_family_mismatch" - Address Family Mismatch
is-cluster-healthy		boolean optional	The status of peer cluster health. Attributes: non-creatable, non-modifiable
is-destination-node-available		boolean optional	True implies that the destination node is available for intercluster communication. Attributes: non-creatable, non-modifiable
is-node-healthy		boolean optional	The RDB health of the node. True means the node is in quorum. Attributes: non-creatable, non-modifiable
last-updated		datetime optional	The date and time when the health information for this node was last updated. Attributes: non-creatable, non-modifiable
originating-node		node-name optional	The name of the local node. Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-peer-info**

[top]

Contains information about the cluster peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active-addresses		remote-inet-address[] optional	The active IP addresses of the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable
address-family		cluster-peer-address-family optional	The address family of the peer cluster connection. Attributes: non-creatable, non-modifiable Possible values: • "ipv4" , • "ipv6"
auth-status-admin		cluster-peer-auth-status-admin optional	The desired status for the authentication of the peer relationship, according to this cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
auth-status-operational		cluster-peer-auth-status-operational optional	The actual status of the authentication interaction with the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable

availability		cluster-peer-avail optional	The status of the peer cluster connection. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable Possible values: • "unavailable" , • "available" , • "partial" , • "pending" , • "unidentified"
cluster-name		string optional	The name of the peer cluster. Available in the local cluster. Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	The UUID of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
encryption-protocol		cluster-peer-crypt optional	Encryption used in the communication for this relationship. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "none" - Encryption Off, • "tls_psk" - Use TLS With PSK
encryption-protocol-proposed		cluster-peer-crypt optional	Proposed encryption for inter-cluster communication. Default: tls-psk if authentication is used, otherwise none Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "none" - Encryption Off, • "tls_psk" - Use TLS With PSK
ipspace-name		string optional	IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: non-creatable, non-modifiable
is-cluster-healthy		boolean optional	The status of peer cluster health. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable
last-updated		datetime optional	The last time that an attempt was made to contact this cluster and its status information was updated. Attributes: non-creatable, non-modifiable
peer-addresses		remote-inet-address[] optional	The remote IP address or host name of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
psk-algorithm		cluster-peer-keyalgo optional	Algorithm by which the pre-shared key was derived. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values: • "akep2" - akep2, • "jpake" - j-pake
remote-cluster-name		string optional	The current name of the peer cluster. Fetched remotely. Generally, use the 'cluster' name instead. Attributes: non-creatable, non-modifiable
remote-cluster-nodes		peer-node-name[] optional	The list of all the nodes in the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable
rpc-connect-timeout	**[5..30]**	integer optional	The timeout for RPC Connect calls to the peer cluster in seconds. Default: 10 Attributes: non-creatable, non-modifiable
serial-number		cluster-serial-number	This is an assigned serial number of peer cluster. It is assigned at the time of cluster create. Available in the local cluster from a

		optional	cache. Attributes: non-creatable, non-modifiable
timeout	**[25..180]**	integer optional	The timeout for operations in the peer cluster in seconds. Default: 15 Available in the local cluster. Attributes: non-creatable, non-modifiable
unreachable-local-nodes		peer-node-name[] optional	List of local nodes not contactable from the node on which the command is executed. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable
update-ping-timeout	**[1..10]**	integer optional	The timeout for pings to the peer cluster in seconds. Default: 5 Attributes: non-creatable, non-modifiable

Element definition: **cluster-peer-passphrase-info**

[top]

Cluster Peer Create Passphrase Information

Name	Range	Type	Description
authentication		cluster-peer-auth-status-operational optional	Authentication Status Administrative Attributes: non-creatable, non-modifiable
availability		cluster-peer-avail optional	Availability of the Remote Cluster Attributes: non-creatable, non-modifiable Possible values: • "unavailable" , • "available" , • "partial" , • "pending" , • "unidentified"
cluster		string optional	Peer Cluster Name Attributes: non-creatable, non-modifiable
initial-allowed-vserver-peers		vserver-name[] optional	Vservers allowed for auto peering Attributes: optional-for-create, non-modifiable
ip-address		remote-inet-address optional	Intercluster LIF IP Address Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace Attributes: optional-for-create, non-modifiable
offer-expiration		expiration optional	If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future Attributes: optional-for-create, non-modifiable
passphrase		string optional	The arbitrary passphrase that matches the one given to the peer cluster. Attributes: optional-for-create, non-modifiable
reciprocal-status		cluster-peer-status	Reciprocal Peering Status Attributes: non-creatable, non-modifiable Possible values: • "non_reciprocal" - Non reciprocal peer, • "reciprocal_connect_success" - Reciprocal peer connection create success, • "reciprocal_connect_failure" - Reciprocal peer connection

		optional	create failure, • "reciprocal_passphrase_success" - Reciprocal passphrase creation success, • "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure

Element definition: **cluster-peer-passphrase-info-modify**

[top]

Cluster Peer Create Passphrase Information

Name	Range	Type	Description
cluster		string optional	The name of the peer cluster. Available in the local cluster. Attributes: key, required-for-create, non-modifiable
ip-address		remote-inet-address optional	Intercluster LIF IP Address Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: optional-for-create, non-modifiable
offer-expiration		expiration optional	When the offer to match passphrases will expire. Default: one hour into the future Available in the local cluster. Attributes: optional-for-create, non-modifiable
passphrase		string optional	Authentication Passphrase Attributes: optional-for-create, non-modifiable

Element definition: **cluster-peer-ping-info**

[top]

Cluster Peer Ping Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
count	**[1..255]**	integer optional	The total number of times to ping. Attributes: key, non-creatable, non-modifiable
current-count	**[0..2^32-1]**	integer optional	The current ping count. Attributes: key, non-creatable, non-modifiable
destination-address		ip-address optional	The active IP address of the node. Attributes: key, non-creatable, non-modifiable
destination-cluster		cluster-name	The name of the destination cluster. Attributes: key, non-creatable, non-modifiable

		optional	
destination-cluster-uuid		string optional	The UUID of the destination cluster. Attributes: non-creatable, non-modifiable
destination-node		string optional	The name of the destination node. Attributes: key, non-creatable, non-modifiable
originating-node		node-name optional	The name of the originating node. Attributes: key, non-creatable, non-modifiable
ping-status		peer-ping-status optional	The status of the ping operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown_node" - Unknown Node, • "internal_error" - Internal Error, • "unreachable" - Unreachable, • "session_reachable" - Session Reachable, • "interface_reachable" - Interface Reachable, • "address_family_mismatch" - Address Family Mismatch
round-trip	**[0..2^64-1]**	integer optional	The roundtrip response time of ping operation in microseconds. Attributes: non-creatable, non-modifiable
time-to-live	**[0..2^32-1]**	integer optional	The time to live (remaining hops). Attributes: non-creatable, non-modifiable
timeout	**[0..2^32-1]**	integer optional	The timeout to use when pinging the peer cluster in seconds. Default: 15 Attributes: non-creatable, non-modifiable
type		peer-ping-protocol optional	The network protocol to use when performing the ping operation. Attributes: non-creatable, non-modifiable Possible values: • "data" - Data Ping, • "icmp" - ICMP Ping

Element definition: **cluster-peer-policy**

[top]

Policy Configuration of the Cluster Peer Facility. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-unauthenticated-access-permitted		boolean optional	Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted. Default: false Attributes: non-creatable, modifiable
is-unencrypted-access-permitted		boolean optional	Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted. Default: true Attributes: non-creatable, modifiable
passphrase-	**[0..1500]**	integer	Minimum required length for a passphrase. Default: 8

minimum-length		optional	Attributes: non-creatable, modifiable

Element definition: **expiration** [top]

Expiration in MM/DD/YYYY HH:MM:SS | {1..7}days | {1..168}hours | PnDTnHnMnS | PnW

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **peer-node-name** [top]

The name of a node in a peer cluster

[none]

Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **vserver-peer-permission-application** [top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

Element definition: **cluster-peer-auth-status-operational** [top]

Cluster Peering Operational Authenticated State

The following are the possible values for the operational authentication state and their meanings.

- 'ok' - The clusters have reached agreement on a shared secret and are using it in ongoing communication (both sides use-authentication, among other attributes),
- 'absent' - The clusters agree that neither side requires authentication of the other (both sides no-authentication),
- 'pending' - This cluster has an outstanding offer to authenticate with the other cluster, but agreement has not yet been reached,
- 'expired' - This cluster's offer to authenticate with the other cluster expired before agreement was reached,
- 'revoked' - This cluster has revoked any authentication agreement (this side revoked),
- 'declined' - The other cluster has revoked our communication attempts and is declining to peer with this cluster,
- 'refused' - The other cluster actively refuses our communication attempts; perhaps its part of the peering relationship has been deleted,
- 'ok_and_offer' - The clusters agree on a shared secret and are using it. In addition, this cluster

has an outstanding offer to re-authenticate with the other cluster,
- 'absent_but_offer' - The clusters currently agree that neither side requires authentication of the other, but this cluster has an outstanding offer to authenticate,
- 'revoked_but_offer' - The cluster has revoked any authentication agreement, but it has an outstanding offer to authenticate,
- 'intent_mismatch' - The two sides disagree on whether authentication is required,
- 'key_mismatch' - The two clusters both believe that they are authenticated, but one of the shared secrets has become corrupted,
- 'incapable' - The other cluster is no longer running a version of Data ONTAP that supports authenticated cluster peering.

[none]

Element definition: **cluster-peer-avail**

[top]

The availability of the peer cluster. Possible values:

- "unavailable" ,
- "available" ,
- "partial" ,
- "pending" ,
- "unidentified"

[none]

Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

Element definition: **cluster-peer-keyalgo**

[top]

akep2|jpake Possible values:

- "akep2" - akep2,
- "jpake" - j-pake

[none]

Element definition: **cluster-peer-status**

[top]

non-reciprocal|reciprocal-status Possible values:

- "non_reciprocal" - Non reciprocal peer,
- "reciprocal_connect_success" - Reciprocal peer connection create success,
- "reciprocal_connect_failure" - Reciprocal peer connection create failure,
- "reciprocal_passphrase_success" - Reciprocal passphrase creation success,
- "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure

[none]

Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

Element definition: **conn-kind**

[top]

unknown|none|PSK|Cert Possible values:

- "unk" - State unknown,
- "none" - No TLS,
- "psk" - TLS based on a Pre-Shared Key,
- "cert" - TLS based on a Certificate

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **peer-ping-protocol**

[top]

The network protocol to use when performing the ping operation. Possible values:

- "data" - Data Ping,
- "icmp" - ICMP Ping

[none]

Element definition: **peer-ping-status**

[top]

The status of the ping operation. Possible values:

- "unknown_node" - Unknown Node,
- "internal_error" - Internal Error,
- "unreachable" - Unreachable,
- "session_reachable" - Session Reachable,
- "interface_reachable" - Interface Reachable,
- "address_family_mismatch" - Address Family Mismatch

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **cluster-switch**

cluster-switch-configure-health-monitor
cluster-switch-create
cluster-switch-delete
cluster-switch-get-iter
cluster-switch-modify
cluster-switch-poll-get
cluster-switch-poll-modify

This interface is used to access information about the Ethernet switches in the cluster.

cluster-switch-configure-health-monitor

[top]

Ethernet switch health monitor configuration file setup

Input Name	Range	Type	Description
node		node-name	Node
package-url		string	Package URL

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-create

[top]

Add information about an Ethernet switch (cluster, management or storage).

Input Name	Range	Type	Description
address		ip-address	IP Address
community-or-username		string optional	SNMPv2c Community String or SNMPv3 Username
device		string	Device Name
is-monitoring-enabled-admin		true-false optional	Enable Switch Monitoring
model		switch-model	Model Number
snmp-version		sm-snmpversion optional	SNMP Version
type		switch-type	Switch Network

Errno	Description
EINTERNALERROR	

cluster-switch-delete

[top]

Delete information about an Ethernet switch (cluster, management or storage).

Input Name	Range	Type	Description
device		string	Device Name
force		boolean optional	Force Delete

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-get-iter

[top]

(cluster-swt-get-iter is now deprecated. Use cluster-switch-get-iter instead.) Display the configuration for Ethernet switch (cluster, management or storage).

Input Name	Range	Type	Description
desired-attributes		cluster-switch-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		cluster-switch-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Ethernet Switch Information object. All Ethernet Switch Information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cluster-switch-info[] optional	The list of attributes of Ethernet Switch Information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Ethernet Switch Information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cluster-switch-modify

[top]

Modify information about an Ethernet switch's configuration.

Input Name	Range	Type	Description
		ip-address	

address		optional	IP Address
community-or-username		string optional	SNMPv2c Community String or SNMPv3 Username
device		string	Device Name
is-monitoring-enabled-admin		true-false optional	Enable Switch Monitoring
model		switch-model optional	Model Number
snmp-version		sm-snmpversion optional	SNMP Version
type		switch-type optional	Switch Network

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-poll-get

[top]

Return Ethernet switch polling interval information.

Input Name	Range	Type	Description
desired-attributes		cluster-switch-poll-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cluster-switch-poll-info	The attributes of the Ethernet switch polling interval information.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cluster-switch-poll-modify

[top]

Modify Ethernet switch polling interval information.

Input Name	Range	Type	Description
polling-interval	**[2..120]**	integer	Polling interval for monitoring Ethernet switch health.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **cluster-switch-info**

[top]

Ethernet Switch Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	IP Address Attributes: required-for-create, modifiable
device		string optional	Device Name Attributes: key, required-for-create, non-modifiable
is-monitoring-enabled-operational		true-false optional	Is Monitored ? Attributes: non-creatable, non-modifiable
model		switch-model optional	Model Number Attributes: required-for-create, non-modifiable Possible values: • "nx5010" - N5K-C5010P-BF, • "nx5020" - N5K-C5020P-BF, • "cat2960" - cisco WS-C2960-24TT-L, • "other" , • "nx5596" - N5K-C5596UP, • "cn1610" - CN1610, • "cn1601" - CN1601, • "nx3132" - N3K-C3132Q-40GX, • "nx5548" - N5K-C5548UP, • "nx3132v" - N3K-C3132Q-V, • "ot9332" , • "nx3132xl" - N3K-C3132Q-XL, • "nx3232c" - N3K-C3232C
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
reason		string optional	Reason For Not Monitoring Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial Number of the Device Attributes: non-creatable, non-modifiable
sw-version		string optional	Software Version Attributes: non-creatable, non-modifiable
type		switch-type optional	Switch Network Attributes: required-for-create, modifiable Possible values: • "cluster_network" , • "management_network" , • "storage_network"
version-source		string optional	Source Of Switch Version Attributes: non-creatable, non-modifiable

Element definition: **cluster-switch-poll-info**

[top]

Ethernet Switch Polling Interval Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
polling-interval	**[2..120]**	integer optional	Polling interval for monitoring Ethernet switch health. Attributes: non-creatable, modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **sm-snmpversion**

[top]

SNMPv1|SNMPv2c|SNMPv3 Possible values:

- "snmpv1" ,
- "snmpv2c" ,
- "snmpv3"

[none]

Element definition: **switch-model**

[top]

NX5010|NX5020|CAT2960|OTHER|NX5596|CN1610|CN1601|NX3132|NX5548|NX3132V|OT9332|NX3132XL|NX3232C Possible values:

- "nx5010" - N5K-C5010P-BF,
- "nx5020" - N5K-C5020P-BF,
- "cat2960" - cisco WS-C2960-24TT-L,
- "other" ,
- "nx5596" - N5K-C5596UP,

- "cn1610" - CN1610,
- "cn1601" - CN1601,
- "nx3132" - N3K-C3132Q-40GX,
- "nx5548" - N5K-C5548UP,
- "nx3132v" - N3K-C3132Q-V,
- "ot9332" ,
- "nx3132xl" - N3K-C3132Q-XL,
- "nx3232c" - N3K-C3232C

[none]

Element definition: **switch-type**

[top]

cluster-network|management-network|storage-network Possible values:

- "cluster_network" ,
- "management_network" ,
- "storage_network"

[none]

Element definition: **true-false**

[top]

True/False

[none]

APIs in Category: **config-backup**

config-backup-copy
config-backup-create
config-backup-delete
config-backup-download
config-backup-info-get
config-backup-info-get-iter
config-backup-rename
config-backup-settings-get
config-backup-settings-modify
config-backup-settings-password-set
config-backup-upload

This set of ZAPIs allow managing configuration backups. Configuration backups are automatically created based on three job schedules. These job schedules are '8hour', 'daily' and 'weekly'. These job schedules are pre-programmed to create 'scheduled backups'. Configuring different job schedules other than the programmed ones is not supported. Scheduled backups are uploaded to remote URL destination if it is configured. This set of ZAPIs support configuring the remote destination by specifying URL, username and password. Scheduled backups will be distributed to some nodes within the cluster and latest backups will be kept in the cluster. This set of ZAPIs allow configuring the number of latest backups to keep in the cluster per job schedule. Scheduled backups are of type 'cluster backup'. A cluster backup contains cluster-wide replicas in addition to 'node backup' of each node in the cluster. A 'node backup' contains only node-specific configuration such as configuration files on the root volume and the boot variables. Configuration backups can also be created 'on demand' by using this set of ZAPIs. These ZAPIs support creating node backups and cluster backups on demand. Backup management operations such as delete backup, copy backup to another node in cluster, rename backup, download backup from URL and upload backup to URL are supported by this set of ZAPIs. ZAPIs for delete, copy, rename, download and upload operations are applicable for any type of backups, i.e. scheduled backups and on demand backups, node backups and cluster backups.

config-backup-copy

[top]

Copy a configuration backup. A job will be queued to copy the configuration backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
from-node		string	The source node to copy the configuration backup from. This is the node that has the backup file on its root volume.
to-node		string	The destination node to copy the configuration backup to.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
			The operation status. Possible values: "succeeded", "in_progress",

result-status		string	"failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-create

[top]

Create a configuration backup. A job will be queued to create the configuration backup in the background. Creation of configuration backup may take several minutes. This ZAPI creates an on demand backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
backup-name		string optional	The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate the name for configuration backup.
backup-type		backup-type optional	Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. Possible values: • "node" - Node Backup, • "cluster" - Cluster Backup
node		string	The node to own the configuration backup. This is the node that will have the backup file on its root volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-delete

[top]

Delete a configuration backup.

Input Name	Range	Type	Description

backup-name		string	The name of the configuration backup.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-download

[top]

Download a configuration backup from a URL.

Input Name	Range	Type	Description
backup-name		string optional	The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate a name for configuration backup.
node		string	The node to own the configuration backup. The backup file will be downloaded to the root volume of this node.
source-url		string	The source URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-info-get

[top]

Return information about a specified configuration backup.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
desired-attributes		config-backup-info-type optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Output Name	Range	Type	Description
attributes		config-backup-info-type	The attributes of the config-backup-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-info-get-iter

[top]

Return a list of configuration backups in the cluster.

Input Name	Range	Type	Description
desired-attributes		config-backup-info-type optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		config-backup-info-type optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the config-backup-info object. All config-backup-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		config-backup-info-type[] optional	The list of attributes of config-backup-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more config-backup-info objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

config-backup-rename

[top]

Rename a configuration backup. Renamed backup stays on the same node.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
new-backup-		string	The new name for the configuration backup. It must be a valid file name. An extension of .7z will be added if the given new-name doesn't have that

name			extension.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-settings-get

[top]

Return information about the configuration backup settings.

Input Name	Range	Type	Description
desired-attributes		config-backup-settings-type optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		config-backup-settings-type	The attributes of the config-backup-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-settings-modify

[top]

Modify the settings for configuration backup operations.

Input Name	Range	Type	Description
backup-count1	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 1.
backup-count2	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 2.
backup-count3	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 3.
destination-url		string optional	The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported.
username-for-destination-url		string optional	The username for the destination URL.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-settings-password-set

[top]

Modify the password for destination URL.

Input Name	Range	Type	Description
password-for-destination-url		string optional	Password for the destination URL.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

config-backup-upload

[top]

Upload a configuration backup to a URL.

Input Name	Range	Type	Description
backup-name		string	The name of the configuration backup.
destination-url		string	The destination URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported.
node		string	The node that owns the configuration backup. This is the node that has the backup file on its root volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

Element definition: **config-backup-info-type**

[top]

Configuration Backup Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
backup-creation-time	**[0..2^31-1]**	integer optional	The time of the configuration backup creation. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
backup-name		string optional	The name of the configuration backup. Attributes: key, required-for-create, non-modifiable
backup-size	**[0..2^63-1]**	integer optional	The size of configuration backup file in number of bytes. Attributes: non-creatable, non-modifiable
backup-type		backup-type optional	Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. If backup-type is not provided, cluster backup is assumed by default. Attributes: non-creatable, non-modifiable Possible values: • "node" - Node Backup, • "cluster" - Cluster Backup
cluster-name		string optional	The name of the cluster which the configuration backup was created for. This field is set only for cluster backups. For node backups, the nodes-in-backup field indicates the name of the node. Attributes: non-creatable, non-modifiable
cluster-uuid		string optional	The UUID of the cluster which the configuration backup was created for. This field is set only for cluster backups. Attributes: non-creatable, non-modifiable
is-auto		boolean optional	True indicates that configuration backup is a scheduled backup that was created automatically by a schedule. False indicates that configuration backup was created on demand. Attributes: non-creatable, non-modifiable
node		string optional	The node that owns the configuration backup. This is the node that has the backup file on its root volume. Attributes: key, required-for-create, non-modifiable
nodes-in-backup		string[] optional	The names of the nodes included in the configuration backup. Attributes: non-creatable, non-modifiable
schedule		string optional	The name of the job schedule for scheduled backups. Possible values are: '8hour', 'daily', and 'weekly'. This field is not set for on demand backups created via management CLI or ZAPI. Attributes: non-creatable, non-modifiable
version		string optional	The software version which the configuration backup was created with. Attributes: non-creatable, non-modifiable

Element definition: **config-backup-settings-type**

[top]

Configuration Backup Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
backup-count1	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 1. Attributes: non-creatable, modifiable
backup-count2	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 2. Attributes: non-creatable, modifiable
backup-count3	**[1..4]**	integer optional	The number of configuration backups to keep in the cluster for schedule 3. Attributes: non-creatable, modifiable
destination-url		string optional	The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. Attributes: non-creatable, modifiable
job-schedule1		string optional	The name of the first job schedule for generating configuration backups. It is pre-programmed to be '8hour'. Attributes: non-creatable, non-modifiable
job-schedule2		string optional	The name of the second job schedule for generating configuration backups. It is pre-programmed to be 'daily'. Attributes: non-creatable, non-modifiable
job-schedule3		string optional	The name of the third job schedule for generating configuration backups. It is pre-programmed to be 'weekly'. Attributes: non-creatable, non-modifiable
username-for-destination-url		string optional	The username for the destination URL. Attributes: non-creatable, modifiable

Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

APIs in Category: **coredump**

coredump-configure
coredump-list-cores-iter-next
coredump-list-cores-iter-start
coredump-list-info
coredump-remove
coredump-save
coredump-trigger

coredump-configure

[top]

Setup some coredump options. If not invoked, the default settings are: sparsecore is true, minfree is zero, and dump-attempts is two.

Input Name	Range	Type	Description
dump-attempts		integer	The number of times coredump should attempt to dump a core when faced with disk errors that prevent writes from completing. When set to zero, no cores will be dumped. Range : [0..10].
minfree		integer	The number of bytes that need to be left in the root filesystem after coredump has finished saving a core. If this amount of space will not be left, save attempts will be aborted. If a core is already being saved, this setting will not take affect until savecore starts saving another core. Range : [0..2^63-1].
save-attempts		integer	The number of times coredump should attempt to save a core before requiring the force flag to be set to true in the coredump-save interface. This is a safeguard built into coredump to prevent coredump from causing a panic loop. Range : [0..10].
sparsecore		boolean	Controls whether or not coredump should dump sparse cores. Sparse cores do not include wafl buffers that contain only user data.

Errno	Description
EINTERNALERROR	

coredump-list-cores-iter-next

[top]

Obtain a list of cores on this system

Input Name	Range	Type	Description
maximum		integer	Maximum number of directory entries to retrieve.
tag		string	Tag from a previous 'coredump-list-cores-iter-start' or 'coredump-list-cores-iter-next'.

Output Name	Range	Type	Description

core-details		core-detail-info[]	Information about every core on this system, both saved and unsaved.
next-tag		string	The tag value to supply to the next invocation of 'coredump-list-cores-iter-next'.
records		integer	The number of cores being returned by this call. When this value reaches zero, all cores have been retrieved.

Errno	Description
EINTERNALERROR	
ELOWMEMORY	
ECOREDUMPBUSY	

coredump-list-cores-iter-start

[top]

Start an iteration through the core files on this system. This interface will return an error unless the state returned by coredump-list-info is idle, nocore, or waitdump.

Output Name	Range	Type	Description
next-tag		string	Tag to be used in next call to 'coredump-list-cores-iter-next'.

Errno	Description
EINTERNALERROR	
ECOREDUMPNOTINITIALIZED	
ECOREDUMPBUSY	

coredump-list-info

[top]

Gather info about state of coredump

Output Name	Range	Type	Description
config-details		config-detail-info optional	This provides information about the disks available to coredump. Information includes whether or not unsaved cores are on the disks, how many blocks are available to dump a core, and what kind of dump would be done, if the system were to panic right now. This is only returned if state is nocore, idle, or waitdump.
fs-avail-bytes		integer optional	The number of free bytes available in the root filesystem for saving cores. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range : [-1..2^63-1].
fs-bytes-needed		integer optional	The maximum number of free bytes needed in the root filesystem for saving all unsaved cores. This will only be returned if state is idle. Range : [0..2^63-1].
fs-minfree-bytes		integer optional	The minimum number of bytes that must be left free in the root filesystem when savecore has finished saving a core. Any core that has a chance to reduce free space below this amount will not be saved. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range :

			[-1..2^63-1].
progress-details		progress-detail-info optional	Progress savecore has made saving the current core. This is only returned if state is saving.
state		string	The current state of savecore. Possible values: nocore, idle, init, saving, mini, waitdump

Errno	Description
EINTERNALERROR	
ENOTWHILEWAITINGFORGIVEBACK	
ENOTINMAINTMODE	
ENOTINREADONLYMODE	
ECOREDUMPNOTINITIALIZED	

coredump-remove

[top]

Removes saved or unsaved cores from this system.

Input Name	Range	Type	Description
coreid		integer optional	The id of the core that should be deleted. If not provided, all cores will be deleted. Range : [0..2^63-1].
remove-saved		boolean optional	Set to true if cores that have already been saved should be deleted. Otherwise, only unsaved cores will be deleted. Default: false

Errno	Description
EBADCOREID	
EINTERNALERROR	
ENOTWHILEWAITINGFORGIVEBACK	
ENOTINMAINTMODE	
ENOTINREADONLYMODE	

coredump-save

[top]

Start saving any unsaved cores

Input Name	Range	Type	Description
coreid		integer optional	The id of the core that should be saved. If not provided, all cores will be saved. Range : [0..2^63-1].
force		boolean optional	Set to true to allow savecore to save cores that have had too many failed save attempts in the past. Default: false

Errno	Description
EINTERNALERROR	
ENOTWHILEWAITINGFORGIVEBACK	
ENOTINMAINTMODE	

ENOTINREADONLYMODE	

coredump-trigger

[top]

Trigger a coredump via the Service Processor

Input Name	Range	Type	Description
node		node-name	Node whose core dump is required

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **config-detail-info**

[top]

Disk configuration information related to coredump

Name	Range	Type	Description
async-blocks		integer	The total number of 4KB blocks available to coredump on the disks that support the spraycore mode of coredump. Range : [0..2^31-1].
async-disks		integer	The number of unused disks available to coredump that support spraycore. Range : [0..2^31-1].
dumptype		string	This is the type of dump that will be done if the machine panics right now. Possible values: compressed, sprayed, spare
needed-blocks		integer	The total number of 4KB disk blocks needed for coredump to spray a core if a panic were to happen right now. Range : [0..2^31-1].
needed-disks		integer	The minimum number of disks needed to spray a core. Range : [0..2^31-1].
no-spares		boolean	True if no spare disks are available. If no spares are available, and the dumptype is spare, no core can be dumped.
partial-disks		integer	The number of disks that contain unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1].
partial-dumps		integer	The number of unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1].
supports-spraycore		boolean	True if this platform supports spraying cores, and false otherwise.
total-disks		integer	The total number of disks available to coredump. Range : [0..2^31-1].
used-disks		integer	Number of disks that already contain portions of unsaved cores. This only includes cores that are not missing any disks. Range : [0..2^31-1].
used-dumps		integer	The number of unsaved cores that are not missing any disks. Range : [0..2^31-1].

Element definition: **core-detail-info**

[top]

All important information about a single core in the system.

Name	Range	Type	Description
ancillary-segment-directory		string	The directory holding ancillary kernel core segments belonging to this panic.
attempts		integer optional	The number of attempts that have been made to save an unsaved core. This is only returned if saved is false. Range : [0..2^31-1].
coreid		integer	A handle that can be used with coredump-remove or coredump-save to remove/save specific cores. Range : [0..2^63-1].
corename		string	The name of the core file. For unsaved cores, this is the name the core file will have once the core is saved.
fs-bytes-needed		integer optional	The maximum number of bytes needed in the root filesystem to save this core. This is only returned if saved is false. Range : [0..2^63-1].
is-partial		boolean optional	True if the core is a partial core. Partial cores are missing disks. This is only returned if saved is false.
is-saved		boolean	True if this core has already been saved.
md5-data-chksum		string	The MD5 checksum of the compressed data of this core.
os-version		string	The version of Data ONTAP that generated this core.
panic-string		string	The panic string for the panic that generated this core.
panic-time		integer	The time of the panic that generated this core. It is specified in seconds since the epoch. Range : [0..2^31-1].
size		integer optional	The size of core (bytes). Range : [0..2^63-1].
sysid		integer	The system id of the system that generated this core. Range : [0..2^31-1].

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **progress-detail-info**

[top]

Savecore progress info

Name	Range	Type	Description
corename		string	Name of the core being saved
saved-blocks		integer	Number of blocks that have already been saved in the core that is being saved
total-blocks		integer	Total number of blocks of data in the core that is being saved.

APIs in Category: **dashboard**

dashboard-alarm-get
dashboard-alarm-get-iter
dashboard-alarm-get-total-records
dashboard-alarm-threshold-get
dashboard-alarm-threshold-get-iter
dashboard-alarm-threshold-get-total-records
dashboard-alarm-threshold-modify

Note: This command is removed starting from ONTAP 9.0.

This set of APIs provides visibility into the Alarm Dashboard feature of the system. The Alarm Dashboard allows the system administrator to proactively monitor the health of each node in the cluster by exposing various storage and performance metrics. The administrator may configure this dashboard to alert users in the event a performance metric crosses a predetermined threshold. The following metrics are monitored by the Alarm Dashboard:

- average client latency (performance of NFS and CIFS operations)
- CPU utilization
- data network health (ratio of packet errors over total packets)
- data port utilization
- storage space utilization

The APIs are divided into the following major features:

- Alarms: view storage and performance metrics
- Alarm Thresholds: manage warning / critical thresholds, polling intervals, and user notifications

dashboard-alarm-get

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
dashboard-metric-type		dashboard-metric-type	The type of metric being monitored. Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
desired-attributes		dashboard-alarm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	Name of the node associated with the alarm metrics.
object-name		string	Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy.

Output Name	Range	Type	Description
		dashboard-	

attributes		alarm-info	The attributes of the dashboard-alarm.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-get-iter

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
desired-attributes		dashboard-alarm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		dashboard-alarm-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm object. All dashboard-alarm objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		dashboard-alarm-info[] optional	The list of attributes of dashboard-alarm objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dashboard-alarm objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of dashboard-alarm objects.

dashboard-alarm-threshold-get

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
dashboard-metric-type		dashboard-metric-type	The type of metric being monitored. Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
desired-attributes		dashboard-alarm-threshold-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		dashboard-alarm-threshold-info	The attributes of the dashboard-alarm-threshold.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-threshold-get-iter

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
desired-attributes		dashboard-alarm-threshold-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		dashboard-alarm-threshold-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm-threshold object. All dashboard-alarm-threshold objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		dashboard-alarm-threshold-info[] optional	The list of attributes of dashboard-alarm-threshold objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dashboard-alarm-threshold objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EAPIUNSUPPORTEDVERSION	

dashboard-alarm-threshold-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of dashboard-alarm-threshold objects.

dashboard-alarm-threshold-modify

[top]

This command is removed starting from ONTAP 9.0.

Input Name	Range	Type	Description
critical-threshold		string optional	The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms
dashboard-metric-type		dashboard-metric-type	The type of metric being monitored. Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
is-user-notification-enabled		boolean optional	Specifies whether user notifications are enabled.
polling-interval	**[60..6000]**	integer optional	The refresh interval for the alarm dashboard metrics (in seconds).
threshold-units		threshold-unit optional	Threshold Units Possible values: • "none" - none, • "ms" - milliseconds, • "percent" - percent

warning-threshold		string optional	The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms

Errno	Description
EAPIUNSUPPORTEDVERSION	

Element definition: **dashboard-alarm-info**

[top]

Alarm monitoring data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dashboard-metric-type		dashboard-metric-type optional	The type of metric being monitored. Attributes: key, non-creatable, non-modifiable Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
high-value		string optional	The highest value recorded so far for this metric. Attributes: non-creatable, non-modifiable
last-value		string optional	The last value recorded for this metric. Attributes: non-creatable, non-modifiable
node		string optional	Name of the node associated with the alarm metrics. Attributes: key, non-creatable, non-modifiable
object-name		string optional	Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy. Attributes: key, non-creatable, non-modifiable
state		alarm-state optional	The current alarm state of the object being monitored. Attributes: non-creatable, non-modifiable Possible values: • "ok" , • "warning" , • "critical"

Element definition: **dashboard-alarm-threshold-info**

[top]

Alarm threshold configuration settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
critical-threshold		string optional	The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms Attributes: optional-for-create, modifiable
dashboard-metric-type		dashboard-metric-type optional	The type of metric being monitored. Attributes: key, required-for-create, non-modifiable Possible values: • "cpu_busy" - CPU Utilization, • "port_util" - Port Utilization, • "op_latency" - Average Client Latency of NFS and CIFS operations, • "aggregate_used" - Storage Aggregate Utilization, • "port_problems" - Packet Error Ratio
is-user-notification-enabled		boolean optional	Specifies whether user notifications are enabled. Attributes: required-for-create, modifiable
polling-interval	**[60..6000]**	integer optional	The refresh interval for the alarm dashboard metrics (in seconds). Attributes: required-for-create, modifiable
threshold-units		threshold-unit optional	Threshold Units Attributes: optional-for-create, modifiable Possible values: • "none" - none, • "ms" - milliseconds, • "percent" - percent
warning-threshold		string optional	The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms Attributes: required-for-create, modifiable

Element definition: **dashboard-metric-type**

[top]

Metric Type Possible values:

- "cpu_busy" - CPU Utilization,
- "port_util" - Port Utilization,
- "op_latency" - Average Client Latency of NFS and CIFS operations,
- "aggregate_used" - Storage Aggregate Utilization,
- "port_problems" - Packet Error Ratio

[none]

Element definition: **threshold-unit**

[top]

Dashboard Threshold Units Possible values:

- "none" - none,
- "ms" - milliseconds,
- "percent" - percent

[none]

Element definition: **alarm-state**

[top]

Alarm Monitoring State Possible values:

- "ok" ,
- "warning" ,
- "critical"

[none]

APIs in Category: **diagnosis**

diagnosis-alert-definition-get
diagnosis-alert-definition-get-iter
diagnosis-alert-get
diagnosis-alert-get-iter
diagnosis-alert-modify
diagnosis-config-get
diagnosis-config-get-iter
diagnosis-delete-alert
diagnosis-policy-definition-get
diagnosis-policy-definition-get-iter
diagnosis-policy-modify
diagnosis-status-get
diagnosis-subsystem-config-get
diagnosis-subsystem-config-get-iter
diagnosis-subsystem-config-modify

This set of Zapis is used for monitoring and diagnosing system health.

diagnosis-alert-definition-get

[top]

Return alert definition

Input Name	Range	Type	Description
alert-id		string	Alert identification.
desired-attributes		diagnosis-alert-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Output Name	Range	Type	Description
attributes		diagnosis-alert-definition-info	The attributes of the Alert Definition.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-alert-definition-get-iter

[top]

Iterate over a list of Alert Definition objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-alert-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-alert-definition-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Definition object. All Alert Definition objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-alert-definition-info[] optional	The list of attributes of Alert Definition objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Alert Definition objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-alert-get

[top]

Return a subsystem alert

Input Name	Range	Type	Description
alert-id		string	Alert identification.
alerting-resource		string	Unique name of resource that generated the alert.
desired-attributes		diagnosis-alert-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Output Name	Range	Type	Description
attributes		diagnosis-alert-info	The attributes of the Alert Information.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-alert-get-iter

[top]

Iterate over a list of Alert Information objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-alert-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-alert-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Information object. All Alert Information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-alert-info[] optional	The list of attributes of Alert Information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Alert Information objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-alert-modify

[top]

Acknowledge/suppress an alert

Input Name	Range	Type	Description
acknowledge		boolean optional	Acknowledge the alert condition.
acknowledger		string optional	Person who acknowledged this alert
alert-id		string	Alert identification.
alerting-resource		string	Unique name of resource that generated the alert.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.
suppress		boolean optional	Suppress this alert.
suppressor		string optional	Person who suppressed this alert

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-config-get

[top]

Return the system health framework configuration

Input Name	Range	Type	Description
desired-attributes		diagnosis-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Output Name	Range	Type	Description
attributes		diagnosis-config-info	The attributes of the Health Monitor Configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-config-get-iter

[top]

Iterate over a list of Health Monitor Configuration objects.

Input Name	Range	Type	Description

desired-attributes		diagnosis-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Configuration object. All Health Monitor Configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-config-info[] optional	The list of attributes of Health Monitor Configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Health Monitor Configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-delete-alert

[top]

Delete subsystem alert

Input Name	Range	Type	Description
alert-id		string	Alert identification.
alerting-resource		string	Unique name of resource that generated the alert.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-policy-definition-get

[top]

Return policy definition

Input Name	Range	Type	Description
desired-attributes		diagnosis-policy-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.
policy-id		string	Policy identifier.

Output Name	Range	Type	Description
attributes		diagnosis-policy-definition-info	The attributes of the Policy Definition.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-policy-definition-get-iter

[top]

Iterate over a list of Policy Definition objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-policy-definition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-policy-definition-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Policy Definition object. All Policy Definition objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-policy-definition-info[] optional	The list of attributes of Policy Definition objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Policy Definition objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-policy-modify

[top]

Enable/disable policy

Input Name	Range	Type	Description
enable		boolean optional	Enable/disable this policy.
is-autosupport-enabled		boolean optional	Enable AutoSupport for this alert.
monitor		hm-type	Type of health monitor (e.g. node_connect, system_connect, system).
node		string	Node hosting this health monitor.
policy-id		string	Policy identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-status-get

[top]

Return the overall system health

Input Name	Range	Type	Description
desired-attributes		diagnosis-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		diagnosis-status	The attributes of the System Health Status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-subsystem-config-get

[top]

Get the attributes of the Health Monitor Subsystem Status.

Input Name	Range	Type	Description
desired-attributes		diagnosis-subsystem-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
subsystem		hm-subsystem	Type of subsystem being monitored Possible values: • 'sas_connect', • 'ha_health',

Output Name	Range	Type	Description
attributes		diagnosis-subsystem-config-info	The attributes of the Health Monitor Subsystem Status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

diagnosis-subsystem-config-get-iter

[top]

Iterate over a list of Health Monitor Subsystem Status objects.

Input Name	Range	Type	Description
desired-attributes		diagnosis-subsystem-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		diagnosis-subsystem-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Subsystem Status object. All Health Monitor Subsystem Status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		diagnosis-subsystem-config-info[] optional	The list of attributes of Health Monitor Subsystem Status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Health Monitor Subsystem Status objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

diagnosis-subsystem-config-modify

[top]

Modify system health subsystem

Input Name	Range	Type	Description
refresh-interval	**[0..2^32-1]**	integer optional	Subsystem Refresh Interval in Minutes.
subsystem		hm-subsystem	Type of subsystem being monitored Possible values: • 'sas_connect', • 'ha_health',

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **diagnosis-alert-definition-info**

[top]

System Health Alert Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-information		string optional	Additional information about the alert. Attributes: non-creatable, non-modifiable
alert-id		string optional	Alert identification. Attributes: key, non-creatable, non-modifiable
alert-type		hm-alert-type optional	Type of alert (other,communications,quality-of-service,processing-error,device,environmental,model-change,security). Attributes: non-creatable, non-modifiable
corrective-actions		string optional	Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable
monitor		hm-type optional	Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
		hm-	Severity of alert

perceived-severity		perceived-sev optional	(Unknown,Other,Information,Degraded,Minor,Major,Critical,Fatal). Attributes: non-creatable, non-modifiable
possible-effect		string optional	Detailed description of the possible effect of the condition. Attributes: non-creatable, non-modifiable
probable-cause		hm-probable-cause optional	Probable cause for alert generation. Attributes: non-creatable, non-modifiable
probable-cause-description		string optional	Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable
subsystem		hm-subsystem optional	Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable

Element definition: **diagnosis-alert-info**

[top]

System Health Alert When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
acknowledge		boolean optional	Acknowledge the alert condition. Attributes: non-creatable, modifiable
acknowledger		string optional	Person who acknowledged this alert Attributes: non-creatable, modifiable
additional-info		string[] optional	Additional information from the resource that generated this alert Attributes: non-creatable, non-modifiable
alert-id		string optional	Alert identification. Attributes: key, non-creatable, non-modifiable
alerting-resource		string optional	Unique name of resource that generated the alert. Attributes: key, non-creatable, non-modifiable
alerting-resource-name		string optional	Display name of resource that generated the alert. Attributes: non-creatable, non-modifiable
corrective-actions		string optional	Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable
indication-time		date optional	Time of alert generation. Attributes: non-creatable, non-modifiable
monitor		hm-type optional	Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
perceived-severity		hm-perceived-sev optional	Severity of alert. Attributes: non-creatable, non-modifiable

policy		string optional	Policy rule responsible for creating this alert. Attributes: non-creatable, non-modifiable
possible-effect		string optional	Possible effect seen due to this problem. Attributes: non-creatable, non-modifiable
probable-cause		hm-probable-cause optional	Probable cause for alert generation. Attributes: non-creatable, non-modifiable
probable-cause-description		string optional	Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable
subsystem		hm-subsystem optional	Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable
suppress		boolean optional	Suppress this alert. Attributes: non-creatable, modifiable
suppressor		string optional	Person who suppressed this alert Attributes: non-creatable, modifiable

Element definition: **diagnosis-config-info**

[top]

System Health Config When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregator		hm-type optional	Aggregating health monitor that aggregates status from this health monitor. Attributes: non-creatable, non-modifiable Possible values: • "node_connect" ... node scope health monitor , • "system_connect" ... cluster scope health monitor , • "system" ... aggregator of health monitor status ,
context		hm-scope optional	Scope of health monitor (node-context, cluster-context). Attributes: non-creatable, non-modifiable Possible values: • "node_context" , • "cluster_context"
health		hm-status optional	Status of health monitor (ok, ok-with-suppressed, degraded). Attributes: non-creatable, non-modifiable Possible values: • "ok" , • "ok_with_suppressed" , • "degraded" , • "unreachable" , • "unknown"
			Subsystem initialization state of health monitor Attributes: non-

init-state		hm-subsystem-discovery-state optional	creatable, non-modifiable Possible values: • "invalid" , • "initializing" , • "initialized" , • "start_discovery" , • "start_rediscovery" , • "discovered_partially" , • "discovery_done" , • "discovery_max"
mon-version		string optional	Health Monitor version. Attributes: non-creatable, non-modifiable
monitor		hm-type optional	Type of health monitor. Attributes: key, non-creatable, non-modifiable Possible values: • "node_connect" , • "system_connect" , • "system"
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
pol-version		string optional	Policy file version. Attributes: non-creatable, non-modifiable
resources		string[] optional	Resources monitored by this health monitor. Attributes: non-creatable, non-modifiable
sub-pol-versions		string optional	Subordinate policy file versions. Attributes: non-creatable, non-modifiable
subsystem		hm-subsystem[] optional	Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable Possible values: • "sas_connect" , • "ha_health" ,

Element definition: **diagnosis-policy-definition-info**

[top]

System Health Policy Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alert-count	**[0..2^32-1]**	integer optional	Count of alerts created as a result of this policy. Attributes: non-creatable, non-modifiable
alert-id		string optional	Alert identifier for alert to be generated on policy rule match. Attributes: non-creatable, non-modifiable
creation-time		datetime optional	Time when the previous alert was created due to this policy. Attributes: non-creatable, non-modifiable
		boolean	

enable		optional	Enable/disable this policy. Attributes: non-creatable, modifiable
is-autosupport-enabled		boolean optional	Enable AutoSupport for this alert. Attributes: non-creatable, modifiable
monitor		hm-type optional	Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable
node		string optional	Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable
policy-id		string optional	Policy identifier. Attributes: key, non-creatable, non-modifiable
responsible-resource-info		string optional	The resource responsible for creating this alert Attributes: non-creatable, non-modifiable
rule-expression		string optional	Arithmetic expression which defines alerts to be created as a result of this policy. Attributes: non-creatable, non-modifiable
where		string optional	Where clause of Arithmetic expression. Attributes: non-creatable, non-modifiable

Element definition: **diagnosis-status**

[top]

System Health Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
status		hm-status optional	Overall system health (ok,ok-with-suppressed,degraded,unreachable) as determined by the diagnosis framework. Attributes: non-creatable, non-modifiable

Element definition: **diagnosis-subsystem-config-info**

[top]

System Health Subsystem Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			Health of Subsystem. Attributes: non-creatable, non-modifiable Possible values:

health		hm-status optional	• "ok" , • "ok_with_suppressed" , • "degraded" , • "unreachable" , • "unknown"
init-state		hm-subsystem-discovery-state optional	Initialization State of Subsystem. Attributes: non-creatable, non-modifiable Possible values: • "invalid" , • "initializing" , • "initialized" , • "start_discovery" , • "start_rediscovery" , • "discovered_partially" , • "discovery_done" , • "discovery_max"
node		string[] optional	Node hosting this health monitor. Attributes: non-creatable, non-modifiable
outstanding-alert-count	**[0..2^32-1]**	integer optional	Number of outstanding alerts. Attributes: non-creatable, non-modifiable
refresh-interval	**[0..2^32-1]**	integer[] optional	Subsystem Refresh Interval in Minutes. Attributes: non-creatable, modifiable
subsystem		hm-subsystem optional	Type of subsystem being monitored Possible values: • 'sas_connect', • 'ha_health', Attributes: key, non-creatable, non-modifiable
suppressed-alert-count	**[0..2^32-1]**	integer optional	Number of suppressed alerts. Attributes: non-creatable, non-modifiable

Element definition: **hm-subsystem**

[top]

Health Monitor Subsystem

[none]

Element definition: **hm-type**

[top]

Type of Health Monitor

[none]

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **hm-alert-type** [top]

Type of alert

[none]

Element definition: **hm-perceived-sev** [top]

Alert severity

[none]

Element definition: **hm-probable-cause** [top]

Probable cause for alert generation

[none]

Element definition: **hm-scope** [top]

Node or Cluster context of Health Monitor Possible values:

- "node_context" ,
- "cluster_context"

[none]

[top]

Element definition: **hm-status**

Health Monitor Status(ok, ok-with-suppressed, degraded, unknown) Possible values:

- "ok" ,
- "ok_with_suppressed" ,
- "degraded" ,
- "unreachable" ,
- "unknown"

[none]

Element definition: **hm-subsystem-discovery-state**

[top]

Health Monitor Subsystem Initialization State(initailizing,starting_discovery,discovery_done_partially,discovery_done,initialized) Possible values:

- "invalid" ,
- "initializing" ,
- "initialized" ,
- "start_discovery" ,
- "start_rediscovery" ,
- "discovered_partially" ,
- "discovery_done" ,
- "discovery_max"

[none]

APIs in Category: **disk**

disk-fail
disk-release-all-reservations
disk-remove
disk-replace-start
disk-replace-stop
disk-sanown-assign
disk-sanown-filer-list-info
disk-sanown-list-info
disk-sanown-reassign
disk-sanown-remove-ownership
disk-set-led
disk-unfail
disk-update-disk-fw
disk-zero-spares

disk-fail

[top]

Fail a file system disk. Removes the specified file system disk from the RAID configuration, spinning the disk down when removal is complete. disk fail is used to remove a file system disk that may be logging excessive errors and requires replacement. Note that if optional input parameter 'is-immediate' is true, the specified disk will be immediately failed out, and the RAID group to which the disk belongs will enter degraded mode (meaning a disk is missing from the RAID group). If a spare disk at least as large as the disk being removed is available, the contents of the disk being removed will be reconstructed onto that spare disk. If 'is-immediate' options is false or not specified, system will prefail the disk and its content will be copied to a replacement disk if a suitable spare disk is available, and afterwards the prefailed disk will be failed out. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The disk being failed is marked as ``broken'', so that if it remains in the disk shelf, it will not be used by the filer as a spare disk. If the disk is moved to another filer, that filer will use it as a spare. This is not a recommended course of action, as the reason that the disk was failed may have been because it needed to be replaced. NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

Input Name	Range	Type	Description
disk		string	Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk.
is-immediate		boolean optional	Specify 'true' if disk is to be failed out immediately. If disk is to be prefailed, specify 'false'. Default value is 'false'.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
ESWAPINPROGRESS	
ENOTDISKOWNER	
EOPNOTSUPPORTED	
EDISKINRAIDZEROVOL	
ENOTSTARTED	

EDISKISSPARE	
ESAVECOREDISK	
E_GROUP_REPARITY	
E_MIRROR_RESYNC	
EOP_DISALLOWED_DURING_REVERT	
EBAD_DISK_LOGICAL_TYPE	
EDISKNOTSPARE	
EAPIMISSINGARGUMENT	
ENOTINSANITIZEMODE	
ENOTINMAINTMODE	
ERAIDGROUPDEGRADED	
EVOLUMEOFFLINE	
EALREADYSTARTED	

disk-release-all-reservations

[top]

Release reservations on all reserved disks. When invoked from maintenance mode, all reservations are released on all disks until the system is rebooted. When not in maintenance mode, then the system will automatically re-issue reservations for disks it owns. In sanown environment the system will reserve its disks everu 30 seconds.

Errno	Description
ERESERVATIONSDISABLED	
EUNABLETORELEASE	

disk-remove

[top]

Remove a spare disk. Removes the specified spare disk from the RAID configuration, spinning the disk down when removal is complete. You can use disk remove to remove a spare disk so that it can be used by another filer (as a replacement for a failed disk or to expand file system space). NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

Input Name	Range	Type	Description
disk		string	Name of the disk to remove. e.g. "1.1.3" or "NET-1.1" for a virtual disk.
force		boolean optional	Allow a container disk in a Dually carrier to be removed if the remove reason is "admin removed". This feature is currently disabled.
remove-reason		string optional	The reason for failing the disk. Possible values are: • "admin_removed" - Admin removed disk. • "evacuation" - Disk is marked for evacuation. The default value is "admin_removed". The failure disk will be recorded with "admin removed" as the failure reason by default. If the remove reason is "evacuation", the failure reason of the disk will be recorded as "evacuated".

Errno	Description

EINTERNALERROR	
EDISKNOTFOUND	
ENOTSTARTED	
EDISKNOTSPARE	
ESAVECOREDISK	
EOP_DISALLOWED_DURING_REVERT	

disk-replace-start

[top]

Initiate replacing a file system disk with an appropriate spare disk. Uses Rapid RAID Recovery to copy data from the source file system disk to the destination spare disk. Roles of disks are reversed at the end of that process. The spare disk will replace the file system disk in the RAID group and the file system disk will become a spare. This interface returns as soon as possible while disk replace starts in the background. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Note: The operation performs limited error checking. Disk replace starts asynchronously in the background, and it can fail even if ZAPI reports success.

Input Name	Range	Type	Description
allow-same-carrier		boolean optional	Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group.
disk		string	Name of the file system disk to replace.
force		boolean optional	Allow replacement-disk to come from the opposite spare pool. Also allow replacement-disk not matching rotational speed of majority of disks in the aggregate.
replace-reason		string optional	The reason for replacing the disk. Possible values are: • "evacuation" - Disk is marked for evacuation. • "layout_optimization" - Disk is marked for layout optimization. • "shared_disk_replacement"- Disk is marked for replacement. • "none" The default value is "none". If the replace reason is "none" or "shared_disk_replacement", the replaced disk will become a non-zeroed spare after disk copy. If the replace reason is "evacuation", the replaced disk will be failed after disk copy, and the "evacuated" failure reason will be recorded for that disk. If the replace reason is "layout_optimization", the replaced disk will become zeroed spare.
replacement-disk		string	Name of the spare disk to use as a replacement.

Errno	Description
EDISKNOTFOUND	
ENOTDISKOWNER	
EDISKISSPARE	
EDISKNOTSPARE	
EDISKTOOSMALL	
EDISKINRAIDZEROVOL	
EALREADYSTARTED	

ERAIDGROUPDEGRADED	
EVOLUMEOFFLINE	
EINTERNALERROR	
EOP_DISALLOWED_DURING_REVERT	
ENOTFROMSAMESTORAGEPOOL	

disk-replace-stop

[top]

Abort disk replace.

Input Name	Range	Type	Description
disk		string	Name of the file system disk being replaced.
replace-reason		string optional	The replace-reason of the operation to be aborted. Possible values are: • "evacuation" - Disk is unmarked for evacuation. • "layout_optimization" - Disk is unmarked for layout optimization. • "shared_disk_replacement"- Disk is unmarked for replacement. • "none"

Errno	Description
EDISKNOTFOUND	
EDISKISSPARE	
ENOTSTARTED	
EINTERNALERROR	
EOP_DISALLOWED_DURING_REVERT	

disk-sanown-assign

[top]

Assigns ownership of a disk. The normal usage is when the disk is unowned, or to assign a disk to a pool.

Input Name	Range	Type	Description
all		boolean optional	Assign all unowned visible disks to the specified node-name. The node-name parameter is mandatory. Other than node-name and copy-owner-from is not allowed with this option. If copy-owner-from parameter is specified with parameter node-name node assign disk ownership based on copy-owner-from else it assign ownership of disks based on node-name.
auto		boolean optional	Auto-assign unowned disks which are on loops where only 1 filer owns the disks and the pool information is the same, to the specified node. The node parameter is mandatory. No other parameter is allowed with this option.
checksum		string	Assign checksum type to disk. Option may only be specified on a RAID array LUNs. Possible values are: • "block"

		optional	• "zoned" • "advanced_zoned"
copy-owner-from		string optional	Assign ownership of this disk to be the same as the owner of the disk specified
disk		string optional	Name of disk to assign. Wildcarding for disk string is supported. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option.
disk-count		integer optional	Assign specified count of disks. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option.
disk-type		string optional	Assign specified type of disk(or set of disks). The disk-count parameter is mandatory. Type of disk: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, or unknown.
disklist		disk-info[] optional	Names of disks
force		boolean optional	Force flag need to be set to 'true' if assigning disks which are already owned a Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work.
is-data-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-data1-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-data2-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-root-partition		boolean optional	Used only with disk parameter. It specifies if the assign command must be executed on the root partition of the disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false.
is-spatial-disk-name-format		boolean optional	It specifies if the disk name is in spatial format. This parameter is used only by the CLI backend code to tell D-Blade ZAPI whether to select a disk name in spatial format while matching with a wild-card pattern. The default value is false.
node-name		string optional	Used only with auto or all parameter. It specifies the node to which autoassignment or assignment of all unowned disks must be done. When this is specified with copy-owner-from option assignment of selected disk will happen based on disk ownership present for disk specified for copy-owner-from parameter.
		string	Assign disk to specific owner (node name). Either of owner,owner-id or

owner		optional	copy-owner-from is mandatory.
owner-id		integer optional	Assign disk to specific owner ID (NVRAM ID or serial number). Either of owner,owner-id or copy-owner-from is mandatory Range : [0..2^32-1].
pool		integer optional	Assign disk to specific pool, e.g. '0' or '1'.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EINVALIDOWNER	
EINVALIDINPUTERROR	
E_SANOWN_AUTOASSIGN_DISABLED	
E_DISK_ASSIGN_WARN	

disk-sanown-filer-list-info

[top]

Get sanown filer information.

Input Name	Range	Type	Description
node		string	Node name for which info is requested

Output Name	Range	Type	Description
disk-sanown-filer-details		disk-sanown-filer-detail-info[]	List of filers and their information.

Errno	Description
EINTERNALERROR	
ESANOWNNOTENABLED	

disk-sanown-list-info

[top]

Get sanown disk information. This API is not supported as of Data ONTAP 8.2. Use storage-disk-get-iter instead.

Input Name	Range	Type	Description
disk		string optional	Get ownership status for given disk, if not supplied, get ownership for all disks or if onership-type is supplied, get ownership info for disks of specific type. '6a*' wildcarding is supported.
node		string optional	Node name for which info is requested
ownership-type		string optional	Possible values are 'all' which will list all disks. 'unowned' which will list all disks without owners. 'owned' which will list all disks with owners. 'visible' which will list all disks belonging to the local and partner filer. Default is 'all'. If specific disk is specified, ownership-type will be ignored.

Output Name	Range	Type	Description
disk-sanown-details		disk-sanown-detail-info[]	List of disks and their sanown information.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EAPIUNSUPPORTEDVERSION	

disk-sanown-reassign

[top]

Changes ownership on disks already belonging to an owner.

Input Name	Range	Type	Description
force		boolean optional	Force flag need to be set to 'true' if reassigning disks which are owned by another Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work. In this case reassign will need to be run on the Filer which owns the disks.
new-owner-id		integer	ID of new owner. This form will assign all the disks belonging to the old owner to the specific owner ID. Range : [0..2^32-1].
old-owner-id		integer	ID of old owner. This form takes all disks currently belonging to the specific old owner ID, and reassign them to a new owner. Range : [0..2^32-1].

Errno	Description
EINTERNALERROR	
EDISKFAILED	

disk-sanown-remove-ownership

[top]

Removes ownership information on a disks provided by disk-list.

Input Name	Range	Type	Description
disk-list		disk-name[] optional	List of disks to remove ownership information from. e.g. "1.1.1 1.1.2" or "NET-1.1 NET-1.2" for virtual disks.
force		boolean optional	If 'true' override the RAID checks. Eg: Disk is part of aggregate. Otherwise defaults to false.
is-data-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.

is-data1-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.
is-data2-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.
is-root-partition		boolean optional	Used only with disk parameter. It specifies if the remove-ownership command must be executed on the root partition of a root-data or root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false.

Errno	Description
EINVALIDINPUTERROR	
EDISKNOTFOUND	
EINVALIDOWNER	
EINVALIDRESERVATION	
ENODISKSFOUND	
EMUSTBEINMAINTMODE	
EINTERNALERROR	
EDISKFAILED	

disk-set-led

[top]

Set the disk LED state

Input Name	Range	Type	Description
disk		string	Disk to set the LED state
led-state		string	The LED state to set Possible values are 'evac-start', 'evac-end', 'led-on', 'led-off'

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EINVALIDINPUTERROR	

disk-unfail

[top]

Unfail a disk in the broken pool, by clearing its FDR (Failed Disk Registry) entry and unfailing it at the Storage Layer, as necessary. If the "make-spare" option is set to B_TRUE, the disk is returned to the spare pool. Otherwise, label assimilation will bring the disk back according to its on-disk labels, with one of four possible outcomes. 1. Disk becomes a spare. This is the common case. The disk becomes a spare upon unfail, because its parent volume is complete and online. 2. Disk is assimilated into former volume. This is a recovery scenario. The disk is brought back into an existing volume, which may result in this volume coming back online. 3. Disk is assimilated into a new partial volume. This may occur in the rare case that the disk's former volume was destroyed or moved. 4. Disk returned to broken pool. This is the case if a fatal error occurs in process of unfailing the disk.

Input Name	Range	Type	Description
disk		string	Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk.
make-spare		boolean optional	Specify 'true' to force the disk to become a spare upon unfail. Default value is 'false'.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EOP_DISALLOWED_DURING_REVERT	
ENOTSTARTED	
EDISKISSPARE	
ESAVECOREDISK	
E_GROUP_REPARITY	
E_MIRROR_RESYNC	
EOP_DISALLOWED_DURING_REVERT	
EDISKNOTSPARE	
EAPIMISSINGARGUMENT	
ENOTINSANITIZEMODE	
ENOTINMAINTMODE	
ERAIDGROUPDEGRADED	
EVOLUMEOFFLINE	
EALREADYSTARTED	

disk-update-disk-fw

[top]

Start disk firmware download process to update firmware on disks. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on disks that do not have the latest firmware revision. The firmware revision on the disk can be monitored via the disk-list-info API.

Input Name	Range	Type	Description
disk-list		disk-name[] optional	List of disks to be updated. If not specified, all disks are updated. e.g. "1.1.1 1.1.2 1.1.3" or "NET-1.1 NET-1.2" for virtual disks.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	

EINVALIDINPUTERROR	
ENODENOTFOUND	

disk-zero-spares

[top]

Set up all non-zeroed spares owned by the filer to start zeroing. This operation is asynchronous, and therefore returns no errors that might occur when the zeroing operation actually starts, which could be several seconds after this API operation completes. Zeroing progress can be monitored via the disk-list-info API. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The "zeroing-percent" element of disk-detail-info is returned if disk zeroing has started, and "is-zeroed" returns TRUE once the zeroing has completed (or, if zeroing wasn't necessary in the first place).

Input Name	Range	Type	Description
node-name		string optional	Name of the node on which spare disks to be zeroed When requested from Admin Vserver LIF and node name is not specified, spare disks from all nodes in the cluster will be zeroed.
use-physical-zeroing		boolean optional	If set to true, the ZAPI will not use fast zeroing, even if the nodes(s) owning the disks have the feature enabled. This will usually lead to much longer completion times.

Errno	Description
EINTERNALERROR	

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **disk-sanown-detail-info**

[top]

Disk sanown information.

Name	Range	Type	Description
checksum		string optional	Only returned on RAID array LUNs. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "zoned" - zoned (this value is no longer supported).
dr-home-id	**[0..2^32-1].**	integer optional	ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home id, this will not be returned.
dr-home-owner		string optional	This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home owner, this will not be returned.
home		string optional	The home of the disk. On NG will be different than owner if the home node has been taken over. On Classic this will be the same as owner. If the disk has no owner, this will not be returned.
home-id		integer optional	ID (NVRAM ID) of disk home. Range : [0..2^32-1].
is-failed		boolean	'true' if the disk is failed, 'false' otherwise.
name		string	Name of the disk, e.g. v1.1 Wildcarding for disk string is suuported, e.g. v1.*
owner		string optional	Current owner of the disk. If disk has no owner, this will not be returned.
owner-id		integer optional	ID (NVRAM ID) of owner if there is one. Range : [0..2^32-1].
pool		integer optional	Pool the disk belongs to, if it has a owner.
reserved-by		integer	ID (NVRAM ID) of node with the reservation on this disk, 0 if there is none. Range : [0..2^32-1].
serial-no		string	Serial number of the disk.
type		string optional	Indicates the type of disk or device being being reported. Values are one of following: "FCAL", "D_ATA", "LUN", "MSATA", "SSD", "UNKNOWN"

Element definition: **disk-sanown-filer-detail-info**

[top]

Disk sanown filer information.

Name	Range	Type	Description
filer-id		integer	ID (NVRAM ID) of owner. Range : [0..2^32-1].
filer-name		string optional	Name of the filer. If the filer name hasn't been written to the disks, this will not be returned.

APIs in Category: **disk-encrypt**

disk-encrypt-get
disk-encrypt-get-iter
disk-encrypt-modify
disk-encrypt-modify-iter
disk-encrypt-sanitize
disk-encrypt-sanitize-iter
disk-encrypt-status-get
disk-encrypt-status-get-iter

This set of disk-encrypt ZAPIs allows management of the encryption parameters of self-encrypting disks, either SEDs or FIPS drives, on systems that support them. When properly set, these controls protect data at rest on the disk media. For FIPS-certified devices, these controls place the drives into compliance with their FIPS PUB 140-2 level 2 ("FIPS") certification. The authentication keys (AKs) are passphrases that allow the system to manipulate these controls.

To provide the maximum protection of disk data, set the data AK (using its corresponding key ID) to a key other than the default AK. The default AK can be either the manufacture secure ID (MSID, key ID 0x0) or a null AK (key ID displayed as blank). When a nondefault value is set as the data AK, the system automatically enables power-cycle protection, so that if a drive is removed or power-cycled, the current data AK must be presented to the device before it will transfer any data.

For FIPS-certified drives, also set the FIPS AK to place the drives into FIPS-compliance mode. In SAS FIPS drives, setting a nondefault FIPS key automatically engages firmware download protection so that the FIPS AK must be presented to the SED at each firmware download. NVMe drives use a drive-validated secure signature to prove the firmware is valid rather than requiring the FIPS key.

disk-encrypt-get

[top]

Return data key ID, FIPS key ID and protection mode of a self-encrypting disk.

Input Name	Range	Type	Description
desired-attributes		disk-encrypt-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
disk-name		string	Name of the self-encrypting disk.

Output Name	Range	Type	Description
attributes		disk-encrypt-info	The attributes of the disk-encrypt.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

disk-encrypt-get-iter

[top]

Return data key ID, FIPS key ID and protection mode of one or more self-encrypting disks.

Input Name	Range	Type	Description
desired-attributes		disk-encrypt-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 2000
query		disk-encrypt-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		disk-encrypt-info[] optional	The list of attributes of disk-encrypt objects.
next-tag		string optional	Tag for the next call. Not present when there are no more disk-encrypt objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

disk-encrypt-modify

[top]

The disk-encrypt-modify API alters encryption parameters on a self-encrypting disk (SED or FIPS).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
data-key-id		string optional	Modify the data authentication key to the key that corresponds to this key ID
disk-name		disk-name	The name specifier of the self-encrypting disks (SEDs).
fips-key-id		string optional	Modify the FIPS-compliance authentication key to the key that corresponds to this key ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	

disk-encrypt-modify-iter

[top]

The disk-encrypt-modify-iter API alters encryption parameters on one or more self-encrypting disks (SEDs).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false
data-key-id		string optional	Key ID of the New Data Authentication Key
fips-key-id		string optional	Key ID of the New Authentication Key for FIPS Compliance
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of disk-encrypt objects to be operated in this call. Default: 20
query		disk-encrypt-info	If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		disk-encrypt-modify-iter-info[] optional	Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.

next-tag		string optional	Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query and were successfully processed.
success-list		disk-encrypt-modify-iter-info[] optional	The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

disk-encrypt-sanitize

[top]

The disk-encrypt-sanitize API cryptographically erases a self-encrypting disk (SED) that is in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
disk-name		string	The name specifier of the self-encrypting disks (SEDs).

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	

disk-encrypt-sanitize-iter

[top]

The disk-encrypt-sanitize-iter API cryptographically erases one or more self-encrypting disks that are in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of disk-encrypt objects to be operated in this call. Default: 20
query		disk-encrypt-info	If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		disk-encrypt-sanitize-iter-info[] optional	Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of disk-encrypt objects that matched the query and were successfully processed.
success-list		disk-encrypt-sanitize-iter-info[] optional	The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

disk-encrypt-status-get

[top]

Return information about the latest self-encrypting disk command for a node.

Input Name	Range	Type	Description
		disk-	

desired-attributes		encrypt-show-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		string	The node reporting this status.

Output Name	Range	Type	Description
attributes		disk-encrypt-show-status-info	The attributes of the disk-encrypt.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

disk-encrypt-status-get-iter

[top]

Return information about the latest self-encrypting disk command for one or more nodes.

Input Name	Range	Type	Description
desired-attributes		disk-encrypt-show-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		disk-encrypt-show-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		disk-encrypt-show-status-info[] optional	The list of attributes of disk-encrypt objects.
next-tag		string optional	Tag for the next call. Not present when there are no more disk-encrypt objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
compliance-standard		string optional	Security standard the device supports. Attributes: non-creatable, non-modifiable
control-standard		string optional	Control Standard. Attributes: non-creatable, non-modifiable
data-key-id		string optional	Key ID of the data authentication key. Attributes: non-creatable, non-modifiable
disk-name		string optional	Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable
fips-key-id		string optional	Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable
is-fips-certified		boolean optional	Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable
is-sed		boolean optional	Is self-encrypting disk? Attributes: non-creatable, non-modifiable
overall-security		string optional	Overall Security. Attributes: non-creatable, non-modifiable
protection-mode		string optional	Protection mode of the device. Possible values are: • 'open' ... disk is unprotected, • 'data' ... data protection only without FIPS compliance, • 'part' ... partial protection with FIPS compliance only, • 'full' ... full data and FIPS compliance protection, and • 'miss' ... protection information is not available Attributes: non-creatable, non-modifiable
			Disk Type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI,

type		string optional	"msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk

Element definition: **disk-encrypt-modify-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

Name	Range	Type	Description
disk-encrypt-key		disk-encrypt-info	The keys for the disk-encrypt object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **disk-encrypt-sanitize-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

Name	Range	Type	Description
disk-encrypt-key		disk-encrypt-info	The keys for the disk-encrypt object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **disk-encrypt-show-status-info**

[top]

Information about storage encryption disk operations When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disk-done-count	**[0..2^32-1]**	integer optional	Number of drives that finished the operation, whether successful or not. Attributes: non-creatable, non-modifiable
disk-start-count	**[0..2^32-1]**	integer optional	Number of drives that started the operation. Attributes: non-creatable, non-modifiable
disk-success-count	**[0..2^32-1]**	integer optional	Number of drives that successfully completed the operation. Attributes: non-creatable, non-modifiable
is-fips-support		boolean optional	Value is 'true' if the node supports FIPS-certified Self-Encrypting Drives. Attributes: non-creatable, non-modifiable
latest-op		string optional	Latest operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Operation unknown/unspecified, • "destroy" - Cryptograpically destroy encrypting drive, • "modify" - Change encrypting drive parameters, • "revert_original" - Revert drive to as-manufactured state, • "sanitize" - Cryptographically sanitize encrypting drive, • "show" - Show encrypting drive parameters, • "status" - Display the status of encryption operations
node-name		string optional	The node reporting this status. Attributes: key, non-creatable, non-modifiable
op-execute-time	**[0..2^32-1]**	integer optional	Execution time of the operation. Attributes: non-creatable, non-modifiable
op-start-time	**[0..2^31-1]**	integer optional	Date and time the operation started. Attributes: non-creatable, non-modifiable

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

compliance-standard		string optional	Security standard the device supports. Attributes: non-creatable, non-modifiable
control-standard		string optional	Control Standard. Attributes: non-creatable, non-modifiable
data-key-id		string optional	Key ID of the data authentication key. Attributes: non-creatable, non-modifiable
disk-name		string optional	Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable
fips-key-id		string optional	Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable
is-fips-certified		boolean optional	Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable
is-sed		boolean optional	Is self-encrypting disk? Attributes: non-creatable, non-modifiable
overall-security		string optional	Overall Security. Attributes: non-creatable, non-modifiable
protection-mode		string optional	Protection mode of the device. Possible values are: • 'open' ... disk is unprotected, • 'data' ... data protection only without FIPS compliance, • 'part' ... partial protection with FIPS compliance only, • 'full' ... full data and FIPS compliance protection, and • 'miss' ... protection information is not available Attributes: non-creatable, non-modifiable
type		string optional	Disk Type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI, • "msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk, • "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk

APIs in Category: **ems**

ems-autosupport-log
ems-config-get
ems-config-modify
ems-config-set-proxy-password
ems-destination-create
ems-destination-destroy
ems-destination-destroy-iter
ems-destination-get
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ems-destination-modify-iter
ems-event-catalog-get-iter
ems-event-filter-copy
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ems-event-filter-get-iter
ems-event-filter-rename
ems-event-filter-rule-add
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ems-event-filter-test
ems-event-notification-create
ems-event-notification-destination-check
ems-event-notification-destination-create
ems-event-notification-destination-destroy-iter
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ems-event-notification-destination-modify-iter
ems-event-notification-destroy-iter
ems-event-notification-get-iter
ems-event-notification-history-get-iter
ems-event-notification-modify-iter
ems-invoke
ems-mail-history-destroy
ems-mail-history-

The Event Management System (EMS) is a mechanism in the Data ONTAP kernel that supports creation, forwarding, and consumption of event indications. Ems events are generated by ONTAP when errors occur or to log status. These event indications are logged to /etc/log/ems and, depending on the event and its severity, to the syslog/console. If an event has a SNMP definition, SNMP traps will also be generated by the event indication.

destroy-iter
ems-mail-history-get
ems-mail-history-get-iter
ems-message-get
ems-message-get-iter
ems-routing-add-destination
ems-routing-get
ems-routing-get-iter
ems-routing-modify
ems-routing-modify-iter
ems-routing-remove-destination
ems-snmp-history-destroy
ems-snmp-history-destroy-iter
ems-snmp-history-get
ems-snmp-history-get-iter
ems-status-get
ems-status-get-iter

ems-autosupport-log

[top]

This API is used by SnapDrive to log SnapDrive specific events occurring on a host system to the the appliance and optionally use the appliance to generate an autosupport message. This event information will be encapsulated in an app.log.x EMS event based on error level. If auto-support is true, an autosupport message will be sent from the filer.

Input Name	Range	Type	Description
app-version		string	Version of application invoking the API.
auto-support		boolean validate	If 'true', an AutoSupport message will be generated.
category		string	Application defined category of the event.
computer-name		string	Host name invoking the API.
event-description		string	Description of event to log. An application defined message to log.
event-id		integer validate	ID of event. A user defined event-id, range [0..2^32-2].
event-source		string	Name of the application invoking the API.
log-level		integer validate	Log level. Accepted values are 0 for 'emergency', 1 for 'alert', 2 for 'critical', 3 for 'error', 4 for 'warning', 5 for 'notice', 6 for 'info', and 7 for 'debug'. As of Data ONTAP 9.0, log-level's 2 and 4 are no longer supported. Specifying 2 or 4 would be equivalent to specifying 3 or 5, respectively.

Errno	Description
EONTAPI_ENOENT	

Vfiler-enabled
Yes

ems-config-get

[top]

Return the EMS Configuration.

Input Name	Range	Type	Description
desired-attributes		ems-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		ems-config-info	The attributes of the ems-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-config-modify

[top]

Modify the EMS Configuration.

Input Name	Range	Type	Description
auto-suppress-exempt-filter		string optional	Name of event filter exempt from auto-suppression
console		boolean optional	Whether console logging should be used.
console-log-level		emsseverity optional	Console logging level. Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault, • "notice" - A normal-priority message,

			does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
duplicate-suppression-duration	**[0..2^32-1]**	integer optional	Duration in seconds for suppression of identical messages
log-rotation-size		size optional	Log file size (in bytes) needed to trigger rotation
mail-from		mail-address optional	The from address of ems mail.
mail-server		string optional	The mail server to use when sending mail.
max-destination-count	**[0..2^32-1]**	integer optional	Maximum number of event notification destinations in system.
max-filter-count	**[0..2^32-1]**	integer optional	Maximum number of event filters in system.
max-filter-rule-count	**[0..2^32-1]**	integer optional	Maximum number of event filter rules in system.
max-log-show-size	**[1..10000]**	integer optional	Maximum number of events to show.
max-notification-count	**[0..2^32-1]**	integer optional	Maximum number of event notifications in system.
max-target-event-bytes	**[10..134217728]**	integer optional	Maximum bytes per event per week. Used by autosuppression to control growth of log file size.
max-target-log-size	**[1048576..134217728]**	integer optional	The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size.
proxy-url		string optional	HTTP/HTTPS proxy URL to use when sending to REST API destinations.
proxy-user		string optional	User name to use for the HTTP/HTTPS proxy when sending to REST API destinations.
rest-delivery-timeout	**[1..1000]**	integer optional	REST API URL delivery timeout in seconds.
suppression		boolean optional	Whether suppression should be used.
trace-log-size	**[1..10000]**	integer optional	Maximum number of traces kept.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-config-set-proxy-password

[top]

Modify the password for proxy server

Input Name	Range	Type	Description
password-for-proxy-server		string optional	Password for proxy server

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_PASSWORDS_NOT_MATCH	
E_EMS_PASSWORD_REQUIRED	

ems-destination-create

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Creates an EMS destination.

Input Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values?
mail		mail-address[] optional	The e-mail address to which events are sent.
name		string	The name of the EMS destination.
return-record		boolean optional	If set to true, returns the ems-destination on successful creation. Default: false
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent.
snmp-community		string optional	The SNMP community name.
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent.
syslog-facility		syslog-facility optional	The syslog logging facility.

Output Name	Range	Type	Description
result		ems-destination-info optional	The ems-destination created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

ems-destination-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes the specified EMS destination.

Input Name	Range	Type	Description
name		string	The name of the EMS destination.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-destination-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes several EMS destinations.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue deleting the next matching ems-destination even when the deletion of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-destination even when the deletion of a previous matching ems-destination fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-destination objects to delete in this call. Default: 20
query		ems-destination-info	If deleting a specific ems-destination, this input element must specify all keys. If deleting multiple ems-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were not deleted due to some error. If set to false, the list of ems-destination objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were successfully deleted. If set to false, the list of ems-destination objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-destination-destroy-iter-info[] optional	Information about ems-destination objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
		string	Tag for the next call. Not present when there are no more

next-tag		optional	matching ems-destination objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-destination objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-destination objects that matched the query and were successfully deleted.
success-list		ems-destination-destroy-iter-info[] optional	The ems-destination objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-destination-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS destination information.

Input Name	Range	Type	Description
desired-attributes		ems-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	The name of the EMS destination.

Output Name	Range	Type	Description
attributes		ems-destination-info	The attributes of the ems-destination.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-destination-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on EMS destinations.

Input Name	Range	Type	Description
desired-attributes		ems-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		ems-destination-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-destination object. All ems-destination objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-destination-info[] optional	The list of attributes of ems-destination objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-destination objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-destination-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS destination.

Input Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values?
mail		mail-address[] optional	The e-mail address to which events are sent.
name		string	The name of the EMS destination.
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent.
snmp-community		string optional	The SNMP community name.
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent.
syslog-facility		syslog-facility optional	The syslog logging facility.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-destination-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies

several EMS destinations.

Input Name	Range	Type	Description
attributes		ems-destination-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-destination even when modification of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-destination even when the modification of a previous matching ems-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		ems-destination-info	If modifying a specific ems-destination, this input element must specify all keys. If modifying ems-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-destination objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-destination objects (just keys) that were successfully updated. If set to false, the list of ems-destination objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-destination-modify-iter-info[] optional	Information about ems-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-destination objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-destination objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-destination objects that matched the query and were successfully updated.
success-list		ems-destination-modify-iter-info[] optional	The ems-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-event-catalog-get-iter

[top]

Return information on several EMS messages.

Input Name	Range	Type	Description
desired-attributes		event-catalog-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		event-catalog-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-catalog object. All ems-event-catalog objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-catalog-info[] optional	The list of attributes of ems-event-catalog objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-catalog objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-filter-copy

[top]

Copy an Event filter including all its rules

Input Name	Range	Type	Description
filter-name		string	Event Filter Name.
new-filter-name		string	New Event Filter Name.

Errno	Description
EDUPLICATEENTRY	
EINTERNALERROR	
EOBJECTNOTFOUND	

E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_INVALID_FILTERNAME	
E_EMS_MAX_FILTER_LIMIT_EXCEEDED	

ems-event-filter-create

[top]

Create a new event filter.

Input Name	Range	Type	Description
filter-name		string	Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen).

Errno	Description
EINTERNALERROR	
EDUPLICATEENTRY	
E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_INVALID_FILTERNAME	
E_EMS_MAX_FILTER_LIMIT_EXCEEDED	
E_EMS_CLUSTER_NOT_CAPABLE	

ems-event-filter-destroy-iter

[top]

Delete one or more existing event filters. To delete the event notifications associated with the filter as well, set the force flag.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-filter objects match a given query. If set to true, the API will continue with the next matching ems-event-filter even when the operation fails for the ems-event-filter. If set to false, the API will return on the first failure. Default: false
force-delete-notification		boolean optional	If true, delete the event notifications that have the specified filter. The default is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-filter even when the operation on a previous matching ems-event-filter fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-event-filter objects to be operated in this call. Default: 20
			If operating on a specific ems-event-filter, this input element must

query		event-filter	specify all keys. If operating on ems-event-filter objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-filter objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-filter objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-filter objects (just keys) that were successfully operated on. If set to false, the list of ems-event-filter objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-filter-destroy-iter-info[] optional	Information about ems-event-filter objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-filter objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of ems-event-filter objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-filter objects that matched the query and were successfully processed.
success-list		ems-event-filter-destroy-iter-info[] optional	The ems-event-filter objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_FILTER_HAS_NOTIFICATIONS	

ems-event-filter-get-iter

[top]

Iterate over a list of event filters.

Input Name	Range	Type	Description
desired-attributes		event-filter optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		event-filter optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-filter object. All ems-event-filter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-filter[] optional	The list of attributes of ems-event-filter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-filter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-filter-rename

[top]

Rename an Event filter

Input Name	Range	Type	Description
filter-name		string	Event Filter Name.
new-filter-name		string	New Event Filter Name.

Errno	Description
EDUPLICATEENTRY	
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_INVALID_FILTERNAME	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	

ems-event-filter-rule-add

[top]

Add a rule to an event filter

Input Name	Range	Type	Description
filter-name		string	Filter Name
message-		string	Message Name. Default: *

name		optional	
position		integer optional	An optional field to specify the position at which the rule needs to be added. Default: Added one below the last position which is the default rule.
severity		string[] optional	Severity Possible values: • 'emergency' - Disruption, • 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information, • '*' - All of the above Default: *
snmp-trap-type		string[] optional	SNMP Trap Type Possible values: • 'standard' - Standard SNMP traps, • 'built-in' - Built-in SNMP traps, • 'severity-based' - Severity based SNMP traps • '*' - All of the above Default: *
type		event-rule-type	Rule Type

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_CLUSTER_NOT_CAPABLE	
E_EMS_NEW_RULE_FOR_UNKNOWN_FILTER	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_MAX_FILTER_RULE_LIMIT_EXCEEDED	
E_EMS_ONLY_DEFAULT_RULE_ID	
E_EMS_INVALID_EVENT_FILTER_RULE_ID	
E_EMS_NO_EVENT_MATCHED_THE_RULE	
E_EMS_NO_REQUIRED_VALUE	
E_EMS_STAR_CANNOT_COEXIST	
E_EMS_INVALID_TRAP_TYPE	
E_EMS_SEVERITIES_NOT_SUPPORTED	
E_EMS_FILTER_RULE_INVALID_MESSAGENAME	
E_EMS_FILTER_RULE_INVALID_SEVERITY	
E_EMS_FILTER_RULE_INVALID_TRAP	
E_EMS_FILTER_RULE_INVALID_SEVERITY_TRAP	

ems-event-filter-rule-delete

[top]

Delete a rule for an event filter

Input Name	Range	Type	Description
filter-name		string	Filter Name
position	**[0..2^32-1]**	integer	Rule Position

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_UNKNOWN_FILTER	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_CANNOT_DELETE_DEFAULT_RULE	
E_EMS_ONLY_DEFAULT_RULE_PRESENT	
E_EMS_ONLY_DEFAULT_RULE_ID	
E_EMS_INVALID_EVENT_FILTER_RULE_ID	

ems-event-filter-rule-reorder

[top]

Reorder the rules based on the new position for a given rule

Input Name	Range	Type	Description
filter-name		string	Filter Name
position	**[0..2^32-1]**	integer	Rule Positon
to-position	**[0..2^32-1]**	integer	New Rule Position

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_UNKNOWN_FILTER	
E_EMS_CANNOT_ALTER_DEFAULT_FILTER	
E_EMS_ONLY_DEFAULT_RULE_ID	
E_EMS_INVALID_EVENT_FILTER_RULE_ID	

ems-event-filter-test

[top]

Test an event filter

Input Name	Range	Type	Description
filter-name		string	Filter Name
message-name		ems-id optional	Message Name

Output Name	Range	Type	Description
			Gives the total number of events that are included in the filter. The format is: ' events will be included in the given filter.' If messagename

output		string	is provided, it specifies if the messagename is included or excluded in the filter. The format is: 'The messagename is included/excluded from the given filter.'

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-event-notification-create

[top]

Create an event notification

Input Name	Range	Type	Description
destinations		string[]	List of Event Notification Destinations
filter-name		string	Filter Name

Output Name	Range	Type	Description
id	[0..2^32-1]	integer optional	A nonpersistent ID assigned to the newly created notification. This can be used to update/delete the notification. Note: This ID is nonpersistent and will be changed every time a previously created notification is deleted.

Errno	Description
EINTERNALERROR	
EDUPLICATEENTRY	
E_EMS_CLUSTER_NOT_CAPABLE	
E_EMS_MAX_NOTIFICATION_LIMIT_EXCEEDED	
E_EMS_FILTER_DOESNT_EXIST	
E_EMS_DESTINATIONS_REQUIRED	
E_EMS_DESTINATION_NOT_PRESENT	

ems-event-notification-destination-check

[top]

Check connectivity to an event notification destination

Input Name	Range	Type	Description
destination-name		string	Event Notification Destination Name
node		node-name	Node

Output Name	Range	Type	Description
check-passed		boolean	Connectivity Check Passed?
result-log		string	Provides the result information after trying to connect to the given destination.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-event-notification-destination-create

[top]

Create an event notification destination

Input Name	Range	Type	Description
certificate-authority		string optional	Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server.
certificate-serial		string optional	Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server.
email		string optional	Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard.
name		string	Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen).
rest-api-url		string optional	Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix.
return-record		boolean optional	If set to true, returns the ems-event-notification-destination on successful creation. Default: false
syslog		string optional	Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'.

Output Name	Range	Type	Description
result		event-notification-destination optional	The ems-event-notification-destination created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EDUPLICATEENTRY	
E_EMS_CLUSTER_NOT_CAPABLE	
E_EMS_EMPTY_FILTERNAME	
E_EMS_FILTERNAME_HAS_SPACES	
E_EMS_FILTERNAME_SYNTAX_ERROR	
E_EMS_INVALID_SYSLOG_DEST	
E_EMS_MAX_DESTINATION_LIMIT_EXCEEDED	
E_EMS_CLIENT_CERT_DOES_NOT_EXIST	
E_EMS_CLIENT_KEY_DOES_NOT_EXIST	

E_EMS_CERT_INFO_INCOMPLETE	
E_EMS_HTTP_WITH_CERT	

ems-event-notification-destination-destroy-iter

[top]

Delete one or more existing event destinations

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue with the next matching ems-event-notification-destination even when the operation fails for the ems-event-notification-destination. If set to false, the API will return on the first failure. Default: false
force-delete-notification		boolean optional	If true, delete the event notifications that have the specified destination as the only destination as well. The default is false.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-notification-destination even when the operation on a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-event-notification-destination objects to be operated in this call. Default: 20
query		event-notification-destination	If operating on a specific ems-event-notification-destination, this input element must specify all keys. If operating on ems-event-notification-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-notification-destination objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully operated on. If set to false, the list of ems-event-notification-destination objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-notification-destination-destroy-iter-info[]	Information about ems-event-notification-destination objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of ems-event-notification-destination objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-notification-destination objects that matched the query and were successfully processed.
success-list		ems-event-notification-destination-destroy-iter-info[] optional	The ems-event-notification-destination objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION	
E_EMS_DESTINATION_HAS_NOTIFICATIONS	

ems-event-notification-destination-get-iter

[top]

Returns information about one or more event notification destinations. The fields is-server-ca-present, certificate-authority, certificate-serial and is-certificate-valid are only applicable for a destination of type 'rest-api' and the destination being an HTTPS destination.

Input Name	Range	Type	Description
desired-attributes		event-notification-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		event-notification-destination-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-destination object. All ems-event-notification-destination objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-notification-destination-info[] optional	The list of attributes of ems-event-notification-destination objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-notification-destination objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-notification-destination-modify-iter

[top]

Modify one or more event notification destinations

Input Name	Range	Type	Description
attributes		event-notification-destination	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification-destination even when modification of a previous ems-event-notification-destination fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification-destination even when the modification of a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		event-notification-destination	If modifying a specific ems-event-notification-destination, this input element must specify all keys. If modifying ems-event-notification-destination objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification-destination objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification-destination objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		ems-event-notification-	

failure-list		destination-modify-iter-info[] optional	Information about ems-event-notification-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-event-notification-destination objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-notification-destination objects that matched the query and were successfully updated.
success-list		ems-event-notification-destination-modify-iter-info[] optional	The ems-event-notification-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION	
E_EMS_CANNOT_MODIFY_DESTINATION_TYPE	
E_EMS_INVALID_SYSLOG_DEST	
E_EMS_CLIENT_CERT_DOES_NOT_EXIST	
E_EMS_CLIENT_KEY_DOES_NOT_EXIST	
E_EMS_CERT_INFO_INCOMPLETE	
E_EMS_HTTP_WITH_CERT	

ems-event-notification-destroy-iter

[top]

Delete one or more event notifications

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-**	integer	The maximum number of ems-event-notification objects to

	1]	optional	delete in this call. Default: 20
query		event-notification	If deleting a specific ems-event-notification, this input element must specify all keys. If deleting multiple ems-event-notification objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were not deleted due to some error. If set to false, the list of ems-event-notification objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully deleted. If set to false, the list of ems-event-notification objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-notification-destroy-iter-info[] optional	Information about ems-event-notification objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification objects to be deleted.
num-failed	[0..2^32-1]	integer optional	Number of ems-event-notification objects that matched the query, but were not deleted due to some error.
num-succeeded	[0..2^32-1]	integer optional	The number of ems-event-notification objects that matched the query and were successfully deleted.
success-list		ems-event-notification-destroy-iter-info[] optional	The ems-event-notification objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

ems-event-notification-get-iter

[top]

Returns information about one or more event notifications

Input Name	Range	Type	Description
desired-attributes		event-notification optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		event-notification	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification object. All ems-event-notification objects matching

		optional	this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-notification[] optional	The list of attributes of ems-event-notification objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-notification objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-notification-history-get-iter

[top]

Return EMS messages sent to a destination.

Input Name	Range	Type	Description
desired-attributes		event-notification-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		string	The destination name.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		event-notification-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-history object. All ems-event-notification-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		event-notification-history-info[] optional	The list of attributes of ems-event-notification-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-event-notification-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-event-notification-modify-iter

[top]

Modify one or more event notifications

Input Name	Range	Type	Description
attributes		event-notification	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification even when modification of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification even when the modification of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		event-notification	If modifying a specific ems-event-notification, this input element must specify all keys. If modifying ems-event-notification objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-event-notification-modify-iter-info[] optional	Information about ems-event-notification objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-event-notification objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-event-notification objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-event-notification objects that matched the query and were successfully updated.

success-list		ems-event-notification-modify-iter-info[] optional	The ems-event-notification objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_EMS_FILTER_DOESNT_EXIST	
E_EMS_DESTINATIONS_REQUIRED	
E_EMS_DESTINATION_NOT_PRESENT	

ems-invoke

[top]

Invoke an ems event. This functionality is intended for use in testing syslog parsers or upper level SNMP management software. The event will be forwarded to the ems log at /etc/log/ems and optionally to the syslog or SNMP trap generator. Invoked events in /etc/log/ems will have the attribute 'inv' set to "1". This is to allow auto-support to differentiate between real and invoked events. Syslog entries resulting from invoked events will contain the text "invoked event:" so that they aren't confused with real events. Invoked events by default are only logged to the /etc/log/ems log. To have an event go to the syslog or generate an snmp trap, the 'syslog' and/or 'snmp' flags need to be set.

Input Name	Range	Type	Description
event-id		string	Name of the event to invoke. Each ems event has a unique identifier (event-id) that can be used by this api to 'fake' an event. Example event-id's: kern.syslog.msg kern.uptime.filer raid.cksum.replay.nvram raid.cksum.replay.summary raid.fsm.commitStateTransit
event-version		integer optional	If set, specifies the version of the event to invoke. By default, the latest version is used. Accepted values are [1..n]. Event-version is only used when multiple versions of an event exist simultaneously within a given build of ONTAP. Most events have an event-version of 1.
params		param[] optional	
severity		string optional	For events with variable severity, specfies the severity to invoke the event at. Shouldn't be set for events that don't have variable severity. Possible Values: debug info notice warning svc_error node_error svc_fault node_fault
snmp		boolean optional	If set, and event has an SNMP definition, generate SNMP trap for event. Invoked messages by default do not generate SNMP traps.
syslog		boolean optional	If set, and the event has a syslog format definition, forward invoked message to syslog. Invoked messages are by default not forwarded to syslog

Errno	Description
EEMS_INVOKE_FAILED	
EEMS_INVOKE_BAD_PARAM	
EEMS_INVOKE_ID_BAD	
EEMS_INVOKE_SEVERITY_REQUIRED	
EEMS_INVOKE_SEVERITY_INVALID	
EEMS_INVOKE_SEVERITY_NOT_VARIABLE	

EEMS_INVOKE_PARAMS_INSUFFICIENT	
EEMS_INVOKE_VERSION_INVALID	
EEMS_INVOKE_SUPRESS_DUP	
EEMS_INVOKE_SUPRESS_TIMER	
EEMS_INVOKE_NVRAM_TOO_BIG	
EEMS_INVOKE_QUEUE_FULL	

ems-mail-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual mail history entry.

Input Name	Range	Type	Description
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-mail-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete mail history entries.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple ems-mail-history objects match a given query. If set to true, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous ems-mail-history fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous matching ems-mail-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-mail-history objects to delete in this call. Default: 20
query		ems-mail-history-info	If deleting a specific ems-mail-history, this input element must specify all keys. If deleting multiple ems-mail-history objects based on query, this input element must specify a query.
return-		boolean	If set to true, the API will return the list of ems-mail-history objects (just keys) that were not deleted due to some error. If set to false,

failure-list		optional	the list of ems-mail-history objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-mail-history objects (just keys) that were successfully deleted. If set to false, the list of ems-mail-history objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-mail-history-destroy-iter-info[] optional	Information about ems-mail-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-mail-history objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-mail-history objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-mail-history objects that matched the query and were successfully deleted.
success-list		ems-mail-history-destroy-iter-info[] optional	The ems-mail-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-mail-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual mail history entry.

Input Name	Range	Type	Description
desired-attributes		ems-mail-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Output Name	Range	Type	Description
		ems-mail-	

attributes		history-info	The attributes of the ems-mail-history.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-mail-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information mail history.

Input Name	Range	Type	Description
desired-attributes		ems-mail-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-mail-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-mail-history object. All ems-mail-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-mail-history-info[] optional	The list of attributes of ems-mail-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-mail-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-message-get

[top]

Return an EMS message.

Input Name	Range	Type	Description

desired-attributes		ems-message-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Output Name	Range	Type	Description
attributes		ems-message-info	The attributes of the ems-message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-message-get-iter

[top]

Return EMS messages.

Input Name	Range	Type	Description
desired-attributes		ems-message-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-message-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-message object. All ems-message objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-message-info[] optional	The list of attributes of ems-message objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-message objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-routing-add-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Add EMS Destinations.

Input Name	Range	Type	Description
destinations		ems-destination[]	Destinations
message-name		ems-id	The name of the EMS message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-routing-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS route information. In general, specifying the severity input parameter is not needed. If specified, it must match that of the event identified by the message-name input parameter.

Input Name	Range	Type	Description
desired-attributes		ems-routing-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
message-name		ems-id	The name of the EMS message.
severity		eventseverity optional	The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Possible values: • "emergency" - Disruption, • "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information

Output Name	Range	Type	Description
attributes		ems-routing-info	The attributes of the ems-routing.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-routing-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on several EMS routes.

Input Name	Range	Type	Description
desired-attributes		ems-routing-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-routing-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-routing object. All ems-routing objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-routing-info[] optional	The list of attributes of ems-routing objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-routing objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-routing-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS route.

Input Name	Range	Type	Description
destinations		ems-destination[] optional	The event destinations.
frequency-threshold		integer optional	Number of times an event occurs before a repeat notification of the event is sent.
message-name		ems-id	The name of the EMS message.
time-threshold		integer optional	Minimum number of seconds between repeat notifications of an event.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	

ems-routing-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies several EMS route.

Input Name	Range	Type	Description
attributes		ems-routing-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple ems-routing objects match a given query. If set to true, the API will continue modifying the next matching ems-routing even when modification of a previous ems-routing fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-routing even when the modification of a previous matching ems-routing fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		ems-routing-info	If modifying a specific ems-routing, this input element must specify all keys. If modifying ems-routing objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-routing objects (just keys) that were not modified due to some error. If set to false, the list of ems-routing objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-routing objects (just keys) that were successfully updated. If set to false, the list of ems-routing objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-routing-modify-iter-info[] optional	Information about ems-routing objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-routing objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-routing objects that matched the query, but were not modified due to some error.
num-	**[0..2^32-**	integer	The number of ems-routing objects that matched the query and

succeeded	**1]**	optional	were successfully updated.
success-list		ems-routing-modify-iter-info[] optional	The ems-routing objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-routing-remove-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Remote EMS Destinations.

Input Name	Range	Type	Description
destinations		ems-destination[]	Destinations
message-name		ems-id	The name of the EMS message.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-snmp-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual SNMP history entry.

Input Name	Range	Type	Description
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-snmp-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete SNMP history entries.

Input Name	Range	Type	Description
			This input element is useful when multiple ems-snmp-history

continue-on-failure		boolean optional	objects match a given query. If set to true, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous ems-snmp-history fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous matching ems-snmp-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of ems-snmp-history objects to delete in this call. Default: 20
query		ems-snmp-history-info	If deleting a specific ems-snmp-history, this input element must specify all keys. If deleting multiple ems-snmp-history objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of ems-snmp-history objects (just keys) that were not deleted due to some error. If set to false, the list of ems-snmp-history objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of ems-snmp-history objects (just keys) that were successfully deleted. If set to false, the list of ems-snmp-history objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		ems-snmp-history-destroy-iter-info[] optional	Information about ems-snmp-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching ems-snmp-history objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of ems-snmp-history objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of ems-snmp-history objects that matched the query and were successfully deleted.
success-list		ems-snmp-history-destroy-iter-info[] optional	The ems-snmp-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

ems-snmp-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual SNMP history entry.

Input Name	Range	Type	Description
desired-attributes		ems-snmp-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node emitting the EMS message.
seq-num		seqnum	The message sequence number.

Output Name	Range	Type	Description
attributes		ems-snmp-history-info	The attributes of the ems-snmp-history.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-snmp-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information SNMP history.

Input Name	Range	Type	Description
desired-attributes		ems-snmp-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ems-snmp-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-snmp-history object. All ems-snmp-history objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		ems-	

attributes-list		snmp-history-info[] optional	The list of attributes of ems-snmp-history objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-snmp-history objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ems-status-get

[top]

Return information on an EMS message.

Input Name	Range	Type	Description
desired-attributes		ems-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
message-name		ems-id	The message name.
node		node-name	Node emitting the EMS message.

Output Name	Range	Type	Description
attributes		ems-status-info	The attributes of the ems-status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ems-status-get-iter

[top]

Return information on EMS messages.

Input Name	Range	Type	Description
desired-attributes		ems-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		ems-status-	A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-status object. All

query		info optional	ems-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ems-status-info[] optional	The list of attributes of ems-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ems-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **ems-config-info**

[top]

EMS Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
auto-suppress-exempt-filter		string optional	Name of event filter exempt from auto-suppression Attributes: non-creatable, modifiable
console		boolean optional	Whether console logging should be used. Attributes: non-creatable, modifiable
console-log-level		emsseverity optional	Console logging level. Attributes: non-creatable, modifiable Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault,

			• "notice" - A normal-priority message, does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
duplicate-suppression-duration	**[0..2^32-1]**	integer optional	Duration in seconds for suppression of identical messages Attributes: non-creatable, modifiable
log-rotation-size		size optional	Log file size (in bytes) needed to trigger rotation Attributes: non-creatable, modifiable
mail-from		mail-address optional	The from address of ems mail. Attributes: non-creatable, modifiable
mail-server		string optional	The mail server to use when sending mail. Attributes: non-creatable, modifiable
max-destination-count	**[0..2^32-1]**	integer optional	Maximum number of event notification destinations in system. Attributes: non-creatable, modifiable
max-filter-count	**[0..2^32-1]**	integer optional	Maximum number of event filters in system. Attributes: non-creatable, modifiable
max-filter-rule-count	**[0..2^32-1]**	integer optional	Maximum number of event filter rules in system. Attributes: non-creatable, modifiable
max-log-show-size	**[1..10000]**	integer optional	Maximum number of events to show. Attributes: non-creatable, modifiable
max-notification-count	**[0..2^32-1]**	integer optional	Maximum number of event notifications in system. Attributes: non-creatable, modifiable
max-target-event-bytes	**[10..134217728]**	integer optional	Maximum bytes per event per week. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable
max-target-log-size	**[1048576..134217728]**	integer optional	The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable
proxy-url		string optional	HTTP/HTTPS proxy URL to use when sending to REST API destinations. Attributes: non-creatable, modifiable
proxy-user		string optional	User name to use for the HTTP/HTTPS proxy when sending to REST API destinations. Attributes: non-creatable, modifiable
rest-delivery-timeout	**[1..1000]**	integer optional	REST API URL delivery timeout in seconds. Attributes: non-creatable, modifiable
suppression		boolean optional	Whether suppression should be used. Attributes: non-creatable, modifiable
trace-log-size	**[1..10000]**	integer optional	Maximum number of traces kept. Attributes: non-creatable, modifiable

Element definition: **ems-destination**

[top]

EMS destination

[none]

Element definition: **ems-destination-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-destination object.

Name	Range	Type	Description
ems-destination-key		ems-destination-info	The keys for the ems-destination object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values? Attributes: optional-for-create, modifiable
mail		mail-address[] optional	The e-mail address to which events are sent. Attributes: optional-for-create, modifiable
name		string optional	The name of the EMS destination. Attributes: key, required-for-create, non-modifiable
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable
snmp-community		string optional	The SNMP community name. Attributes: optional-for-create, modifiable
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable
syslog-facility		syslog-facility optional	The syslog logging facility. Attributes: optional-for-create, modifiable

Element definition: **ems-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-destination object.

Name	Range	Type	Description
ems-destination-key		ems-destination-info	The keys for the ems-destination object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-event-filter-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-filter object.

Name	Range	Type	Description
ems-event-filter-key		event-filter	The keys for the ems-event-filter object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-event-notification-destination-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-notification-destination object.

Name	Range	Type	Description
ems-event-notification-destination-key		event-notification-destination	The keys for the ems-event-notification-destination object to which the operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-event-notification-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-event-notification-destination object.

Name	Range	Type	Description
ems-event-notification-destination-key		event-notification-destination	The keys for the ems-event-notification-destination object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-event-notification-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-event-notification object.

Name	Range	Type	Description
ems-event-notification-key		event-notification	The keys for the ems-event-notification object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-event-notification-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-event-notification object.

Name	Range	Type	Description
ems-event-notification-key		event-notification	The keys for the ems-event-notification object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-id**

[top]

EMS Id

[none]

[top]

Element definition: **ems-mail-history-destroy-iter-info**

Information about the deletion operation that was attempted/performed against ems-mail-history object.

Name	Range	Type	Description
ems-mail-history-key		ems-mail-history-info	The keys for the ems-mail-history object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-mail-history-info**

[top]

EMS Mail History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
drops-since-previous-time	**[0..2^32-1]**	integer optional	Number of drops since previous transmission. Attributes: non-creatable, non-modifiable
mail-address		mail-address[] optional	The mail address. Attributes: non-creatable, non-modifiable
message		string optional	The alert message. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable
previous-time		datetime optional	Previous transmission time. Attributes: non-creatable, non-modifiable
seq-num		seqnum optional	The message sequence number. Attributes: key, required-for-create, non-modifiable
time		datetime optional	The mail transmission time. Attributes: non-creatable, non-modifiable

Element definition: **ems-message-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ems-severity		emsseverity optional	Message EMS severity. Attributes: non-creatable, non-modifiable Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault, • "notice" - A normal-priority message, does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
event		string optional	The EMS event. Attributes: non-creatable, non-modifiable
event-xml-len	**[0..2^32-1]**	integer optional	EMS event XML length in bytes. Attributes: non-creatable, non-modifiable
filter-name		ems-filter optional	Name of the filter to apply on events. Attributes: non-creatable, non-modifiable
kernel-gen	**[0..2^64-1]**	integer optional	The emitted message's kernel generation number. Attributes: non-creatable, non-modifiable
kernel-seq-num	**[0..2^64-1]**	integer optional	The emitted message's kernel sequence number. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable
num-suppressed-since-last	**[0..2^32-1]**	integer optional	Number of times suppressed since last time the event was logged. Attributes: non-creatable, non-modifiable
parameters		parameter[] optional	Event parameter's name and value.
seq-num		seqnum optional	The message sequence number. Attributes: key, non-creatable, non-modifiable
			Message severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: non-creatable, non-modifiable Possible values: • "emergency" - Disruption,

severity		eventseverity optional	• "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information
source		string optional	The emitted message's source. Attributes: non-creatable, non-modifiable
time		datetime optional	The time of message emission. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	Version number of the event. Attributes: non-creatable, non-modifiable

Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	The corrective action. Attributes: non-creatable, non-modifiable
description		string optional	The event description. Attributes: non-creatable, non-modifiable
destinations		ems-destination[] optional	The event destinations. Attributes: non-creatable, modifiable
frequency-threshold	**[0..2^32-1]**	integer optional	Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable
message-name		ems-id optional	The name of the EMS message. Attributes: key, non-creatable, non-modifiable
severity		eventseverity optional	The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values: • "emergency" - Disruption, • "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information
snmp-		boolean	Indicates whether or not the event supports SNMP traps.

support		optional	Attributes: non-creatable, non-modifiable
time-threshold	**[0..2^32-1]**	integer optional	Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable

Element definition: **ems-routing-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-routing object.

Name	Range	Type	Description
ems-routing-key		ems-routing-info	The keys for the ems-routing object to which the modify operation applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.

Element definition: **ems-snmp-history-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-snmp-history object.

Name	Range	Type	Description
ems-snmp-history-key		ems-snmp-history-info	The keys for the ems-snmp-history object to which the deletion applies.
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

Element definition: **ems-snmp-history-info**

[top]

EMS SNMP History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
drops-since-previous-time	**[0..2^32-1]**	integer optional	Number of drops since previous transmission. Attributes: non-creatable, non-modifiable
		string	

message		optional	The alert message. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable
previous-time		datetime optional	Previous transmission time. Attributes: non-creatable, non-modifiable
seq-num		seqnum optional	The message sequence number. Attributes: key, required-for-create, non-modifiable
snmp-address		string[] optional	The SNMP client address. Attributes: non-creatable, non-modifiable
time		datetime optional	The SNMP transmission time. Attributes: non-creatable, non-modifiable

Element definition: **ems-status-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
accumulated-bytes	**[0..2^32-1]**	integer optional	The total number of bytes the event has accumulated in the log file. Attributes: non-creatable, non-modifiable
change-since		boolean optional	The algorithm to determine which events are considered chatter is run periodically. The change-since parameter indicates whether the event has been posted since the last time the chatter determination algorithm has run. Attributes: non-creatable, non-modifiable
drops	**[0..2^32-1]**	integer optional	Number of times the event has been dropped. An event is dropped if it is suppressed or has exceeded incoming rate limits. Attributes: non-creatable, non-modifiable
indications	**[0..2^32-1]**	integer optional	Number of times the event has been posted. Attributes: non-creatable, non-modifiable
is-chatter		boolean optional	Whether the event is considered chatter, and therefore subject to autosuppression. Attributes: non-creatable, non-modifiable
last-day-histogram	**[0..2^64-1]**	integer[] optional	24-hour histogram. Number of times the event was posted in the last day. The histogram is divided into 24 buckets, each bucket collecting one hour. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable
last-hour-histogram	**[0..2^64-1]**	integer[] optional	60-minute histogram. Number of times the event was posted in the last hour. The histogram is divided into sixty buckets, each bucket collecting one minute. The buckets are displayed in reverse chronological order (most recent first). Attributes:

			non-creatable, non-modifiable
last-time-dropped		datetime optional	Time the event was most recently posted and suppressed. Attributes: non-creatable, non-modifiable
last-time-occurred		datetime optional	Time the event was most recently posted. Attributes: non-creatable, non-modifiable
last-time-processed		datetime optional	Time the event was most recently posted and not suppressed. Attributes: non-creatable, non-modifiable
last-week-histogram	**[0..2^64-1]**	integer[] optional	7-day histogram. Number of times the event was posted in the last week. The histogram is divided into 7 buckets, each bucket collecting one day. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The message name. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable
num-asup-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for AutoSupport has been dropped. Attributes: non-creatable, non-modifiable
num-autosuppressed	**[0..2^32-1]**	integer optional	Number of times the event has been autosuppressed. Attributes: non-creatable, non-modifiable
num-console-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for console output has been dropped. Attributes: non-creatable, non-modifiable
num-dup-suppressed	**[0..2^32-1]**	integer optional	Number of times the event has been duplicate suppressed. Attributes: non-creatable, non-modifiable
num-dup-suppressed-after-120s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated after 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-120s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-30s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 30 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-60s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 60 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-dup-suppressed-in-90s	**[0..2^64-1]**	integer optional	Number of times the event has been duplicate suppressed because an identical event was generated within 90 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable
num-email-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for an email destination has been dropped. Attributes: non-creatable, non-modifiable
num-logger-dropped	**[0..2^32-1]**	integer optional	Number of times the event has been dropped by the logger. Attributes: non-creatable, non-modifiable
num-mgwd-dropped	**[0..2^64-1]**	integer optional	Number of times the event destined for Management Gateway has been dropped. Attributes: non-creatable, non-modifiable
num-rate-limited	**[0..2^32-1]**	integer optional	Number of times the event has been rate limited. Attributes: non-creatable, non-modifiable
num-router-dropped	**[0..2^64-1]**	integer optional	Number of times the event has been dropped by the EMS router. Attributes: non-creatable, non-modifiable

num-suppressed-since-last	**[0..2^32-1]**	integer optional	Number of times suppressed since last time logged. Attributes: non-creatable, non-modifiable
num-timer-suppressed	**[0..2^32-1]**	integer optional	Number of times the event has been timer suppressed. Attributes: non-creatable, non-modifiable
probability	**[0..100]**	integer optional	Probability of an event being suppressed via autosuppress. Attributes: non-creatable, non-modifiable
severity		emsseverity optional	The severity of the event. Attributes: non-creatable, non-modifiable Possible values: • "node_fault" - A data corruption has been detected or the node is unable to provide client service, • "svc_fault" - A temporary loss of service has been detected, typically a transient software fault, • "node_error" - A hardware error has been detected which is not immediately fatal, • "svc_error" - A software error has been detected which is not immediately fatal, • "warning" - A high-priority message, does not indicate a fault, • "notice" - A normal-priority message, does not indicate a fault, • "info" - A low-priority message, does not indicate a fault, • "debug" - A debugging message, typically suppressed from customer, • "var" - Message has variable severity, selected at runtime
stat-starting-time		datetime optional	Time the event was first posted. Attributes: non-creatable, non-modifiable

Element definition: **emsseverity**

[top]

NODE_FAULT|SVC_FAULT|NODE_ERROR|SVC_ERROR|WARNING|NOTICE|INFO|DEBUG|VAR Possible values:

- "node_fault" - A data corruption has been detected or the node is unable to provide client service,
- "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,
- "node_error" - A hardware error has been detected which is not immediately fatal,
- "svc_error" - A software error has been detected which is not immediately fatal,
- "warning" - A high-priority message, does not indicate a fault,
- "notice" - A normal-priority message, does not indicate a fault,
- "info" - A low-priority message, does not indicate a fault,
- "debug" - A debugging message, typically suppressed from customer,
- "var" - Message has variable severity, selected at runtime

[none]

Element definition: **event-catalog-info**

[top]

Event catalog information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	The corrective action. Attributes: non-creatable, non-modifiable
deprecated		boolean optional	The flag that indicates whether or not the event is deprecated. Attributes: non-creatable, non-modifiable
description		string optional	The event description. Attributes: non-creatable, non-modifiable
filter-name		string optional	Filter Name Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The name of the EMS message. Attributes: key, non-creatable, non-modifiable
severity		string optional	Severity Possible values: • 'emergency' - Disruption, • 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information Attributes: non-creatable, non-modifiable
snmp-trap-type		snmptraptypes optional	The type of SNMP trap. Attributes: non-creatable, non-modifiable Possible values: • "standard" - Standard SNMP traps, • "built_in" - Built-in SNMP traps, • "severity_based" - Severity based SNMP traps

Element definition: **event-filter**

[top]

Event filter creation. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event-filter-rule		event-filter-rule-info[] optional	List of rules added to each filter.
filter-name		string optional	Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable

Element definition: **event-notification**

[top]

Event notifications. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destinations		string[] optional	List of Event Notification Destinations Attributes: required-for-create, modifiable
filter-name		string optional	Event Filter Name Attributes: required-for-create, modifiable
id	**[0..2^32-1]**	integer optional	Event Notification ID Attributes: key, required-for-create, non-modifiable

Element definition: **event-notification-destination**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for-create, modifiable
certificate-		string	Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for-

serial		optional	create, modifiable
email		string optional	Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard. Attributes: optional-for-create, modifiable
name		string optional	Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable
rest-api-url		string optional	Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix. Attributes: optional-for-create, modifiable
syslog		string optional	Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. Attributes: optional-for-create, modifiable

Element definition: **event-notification-destination-info**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Issuing Certificate Authority (CA) of client certificate. Attributes: non-creatable, non-modifiable
certificate-serial		string optional	Serial number of certificate in hexadecimal format. Attributes: non-creatable, non-modifiable
destination		string[] optional	An output field to view the destination. Attributes: non-creatable, non-modifiable
is-certificate-valid		boolean optional	This field indicates whether the client certificate specified by the certificate-authority and certificate-serial fields is valid. If not, and if the REST API server requires client authentication, event messages will not be sent to the server. Attributes: non-creatable, non-modifiable
is-server-ca-present		boolean optional	This field indicates whether certificates of the server-ca type exist in the system. If not, event messages will not be sent to a rest-api type destination having an HTTPS URL. Attributes: non-creatable, non-modifiable
name		string optional	Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, non-creatable, non-modifiable

type		string optional	An output field to view the type of the destination. The type could be one of email, syslog, REST API server URL or SNMP. SNMP destinations are displayed under the default destination name 'snmp-traphost'. The SNMP destinations associated with 'snmp-traphost' can be created/updated only through the 'system snmp traphost' command. Attributes: non-creatable, non-modifiable Possible values: • "snmp" - SNMP destination, • "email" - Email destination, • "syslog" - Syslog Destination, • "rest_api" - REST API URL Destination

Element definition: **event-notification-history-info**

[top]

Event notification history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event		string optional	The EMS event. Attributes: non-creatable, non-modifiable
message-name		ems-id optional	The emitted message's name. Attributes: non-creatable, non-modifiable
node		node-name optional	Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable
seq-num		seqnum optional	The message sequence number. Attributes: key, non-creatable, non-modifiable
severity		string optional	Severity Possible values: • 'emergency' - Disruption, • 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information Attributes: non-creatable, non-modifiable
time		datetime optional	The time of message emission. Attributes: non-creatable, non-modifiable

Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

Element definition: **mail-address**

[top]

E-mail Address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **param**

[top]

one parameter required by the event.

[none]

Element definition: **remote-ip**

[top]

Remote IP Address

[none]

Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **ems-destination**

[top]

EMS destination

[none]

Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hide-parameters		boolean optional	Hide parameter values? Attributes: optional-for-create, modifiable
mail		mail-address[] optional	The e-mail address to which events are sent. Attributes: optional-for-create, modifiable
name		string optional	The name of the EMS destination. Attributes: key, required-for-create, non-modifiable
snmp		remote-ip[] optional	The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable
snmp-community		string optional	The SNMP community name. Attributes: optional-for-create, modifiable
syslog		remote-ip[] optional	The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable
syslog-facility		syslog-facility optional	The syslog logging facility. Attributes: optional-for-create, modifiable

Element definition: **ems-filter**

[top]

EMS Filter Name

[none]

Element definition: **ems-id**

[top]

EMS Id

[none]

Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless

otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	The corrective action. Attributes: non-creatable, non-modifiable
description		string optional	The event description. Attributes: non-creatable, non-modifiable
destinations		ems-destination[] optional	The event destinations. Attributes: non-creatable, modifiable
frequency-threshold	**[0..2^32-1]**	integer optional	Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable
message-name		ems-id optional	The name of the EMS message. Attributes: key, non-creatable, non-modifiable
severity		eventseverity optional	The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values: • "emergency" - Disruption, • "alert" - Single point of failure, • "critical" - Critical condition, • "error" - Degradation, • "warning" - Warning condition, • "notice" - Information, • "informational" - Information, • "debug" - Debug information
snmp-support		boolean optional	Indicates whether or not the event supports SNMP traps. Attributes: non-creatable, non-modifiable
time-threshold	**[0..2^32-1]**	integer optional	Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable

Element definition: **event-filter-rule-info**

[top]

List of rules added to each filter.

Name	Range	Type	Description
message-name		string optional	Message Name Attributes: non-creatable, non-modifiable
position	**[0..2^32-1]**	integer optional	Rule Position Attributes: non-creatable, non-modifiable
			Severity Possible values: • 'emergency' - Disruption,

severity		string[] optional	• 'alert' - Single point of failure, • 'error' - Degradation, • 'notice' - Information, • 'informational' - Information, • 'debug' - Debug information, • '*' - All of the above Default:* Attributes: non-creatable, non-modifiable
snmp-trap-type		string[] optional	SNMP Trap Type Possible values: • 'standard' - Standard SNMP traps, • 'built-in' - Built-in SNMP traps, • 'severity-based' - Severity based SNMP traps • '*' - All of the above Default: * Attributes: non-creatable, non-modifiable
type		event-rule-type optional	Rule Type Attributes: non-creatable, non-modifiable Possible values: • "include" - Event(s) matching this rule is included in the specified filter, • "exclude" - Event(s) matching this rule is excluded in the specified filter

Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

Element definition: **mail-address** [top]

E-mail Address

[none]

Element definition: **parameter** [top]

Event parameter's name and value.

Name	Range	Type	Description
name		string optional	List of event parameter names. Attributes: non-creatable, non-modifiable
value		string optional	List of event parameter values. Attributes: non-creatable, non-modifiable

Element definition: **remote-ip** [top]

Remote IP Address

[none]

Element definition: **snmptraptypes** [top]

Standard|Built-in|Severity-based Possible values:

- "standard" - Standard SNMP traps,
- "built_in" - Built-in SNMP traps,
- "severity_based" - Severity based SNMP traps

[none]

Element definition: **syslog-facility** [top]

The syslog facility.

[none]

Element definition: **ems-destination**

[top]

EMS destination

[none]

Element definition: **ems-id**

[top]

EMS Id

[none]

APIs in Category: **environment**

environment-sensors-get-iter	Environmental subsystem is a module to monitor the system's environmental states by reading the hardware sensors on various components. According to the states of the sensors, the subsystem will take actions based on a predefined environmental policy. This category contains the APIs for the environmental subsystem.

environment-sensors-get-iter

[top]

Returns the sensors information from the environmental subsystem.

Input Name	Range	Type	Description
desired-attributes		environment-sensors-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
discrete-sensor-state		sensor-state-enum optional	Discrete-valued sensor state
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 300
query		environment-sensors-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the environment object. All environment objects matching this query up to 'max-records' will be returned.
sensor-name		string optional	Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32
sensor-type		sensor-type-enum optional	Type of the sensor. See sensor-type-enum for possible values
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
threshold-sensor-state		sensor-state-enum optional	Threshold-based sensor state

Output Name	Range	Type	Description
attributes-list		environment-sensors-info[] optional	The list of attributes of environment objects.
next-tag		string optional	Tag for the next call. Not present when there are no more environment objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **environment-sensors-info**

[top]

Environment Sensor Info. The environmental subsystem monitors a set of hardware sensors in the system. Each sensor represents a pair of state and value that can be measured to reflect the physical state of device(s). Based on the values the sensors represent, the sensors can be grouped to discrete-valued sensors and threshold-based sensors. The discrete-valued sensors have a set of discrete values that represent states of sensors. The threshold-based sensors have a numeral value that represnts a value on an axis, and may have a set of thresholds (points on that axis) are used to define the state of the sensor (ranging from critically low to critically high). This typedef defines the information for both groups of sensors. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
critical-high-threshold	**[-2^31..2^31-1]**	integer optional	Critical high threshold Attributes: non-creatable, non-modifiable
critical-low-threshold	**[-2^31..2^31-1]**	integer optional	Critical low threshold Attributes: non-creatable, non-modifiable
discrete-sensor-state		sensor-state-enum optional	Discrete-valued sensor state Attributes: non-creatable, non-modifiable Possible values: • "normal" - The device is normal, • "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold, • "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold, • "crit-low" - The device state is lower than the critical low threshold, • "crit-high" - The device state is higher than the critical higher threshold, • "disabled" - The sensor is disabled, only available for SP-based filers, • "uninitialized" - The sensor is not yet initialized, only available for SP-based filers, • "init-failed" - The sensor failed to initialize, only available for SP-based filers, • "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers, • "invalid" - The status returned from the sensor is not valid, only available for SP-based filers, • "retry" - The sensor is in the rety state, only available for non SP-based filers, • "bad" - The device is bad, only available for non SP-based filers, • "not-present" - The device is not present, only available for

			non SP-based filers, • "failed" - The sensor failed to report status, • "ignored" - The sensor state is ignored, only available for SP-based filers, • "unknown" - The sensor state is uknown
discrete-sensor-value		string optional	Discrete-valued sensor value Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node name the sensor is associated with Attributes: key, non-creatable, non-modifiable
sensor-name		string optional	Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32 Attributes: non-creatable, non-modifiable
sensor-type		sensor-type-enum optional	Type of the sensor Attributes: non-creatable, non-modifiable Possible values: • "fan" - FAN RPM sensors, • "thermal" - Temerature sensors, • "voltage" - Voltage measurement sensors, • "current" - Current measurement sensors, • "battery-life" - Sensors report battery life, • "discrete" - Discrete sensors, • "fru" - FRU sensors, • "nvmem" - Sensors on the NVMEM module, • "counter" - Sensors report in counters, • "minutes" - Sensors report by minutes, • "percent" - Sensors report in percentage, • "agent" - Sensors on or throught the Agent device, • "unknown" - Unknown sensors
threshold-sensor-state		sensor-state-enum optional	Threshold-based sensor state Attributes: non-creatable, non-modifiable Possible values: • "normal" - The device is normal, • "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold, • "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold, • "crit-low" - The device state is lower than the critical low threshold, • "crit-high" - The device state is higher than the critical higher threshold, • "disabled" - The sensor is disabled, only available for SP-based filers, • "uninitialized" - The sensor is not yet initialized, only available for SP-based filers, • "init-failed" - The sensor failed to initialize, only available for SP-based filers, • "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers, • "invalid" - The status returned from the sensor is not valid, only available for SP-based filers, • "retry" - The sensor is in the rety state, only available for non SP-based filers, • "bad" - The device is bad, only available for non SP-based filers, • "not-present" - The device is not present, only available for non SP-based filers,

			• "failed" - The sensor failed to report status, • "ignored" - The sensor state is ignored, only available for SP-based filers, • "unknown" - The sensor state is uknown
threshold-sensor-value	**[-2^31..2^31-1]**	integer optional	Threshold-based sensor value Attributes: non-creatable, non-modifiable
value-units		string optional	The units of the threshold-based sensor value. More than 90 possible unit types. Refer to the "Sensor Unit Type Codes" in the IPMI spec for possible types. Attributes: non-creatable, non-modifiable
warning-high-threshold	**[-2^31..2^31-1]**	integer optional	Warning high threshold Attributes: non-creatable, non-modifiable
warning-low-threshold	**[-2^31..2^31-1]**	integer optional	Warning low threshold Attributes: non-creatable, non-modifiable

Element definition: **sensor-state-enum**

[top]

normal|warn-low|warn-high|crit-low|crit-high|disabled|uninitialized|init-failed|not-available|invalid|retry|bad|not-present|failed|ignored|fault|unknown Possible values:

- "normal" ,
- "warn_low" ,
- "warn_high" ,
- "crit_low" ,
- "crit_high" ,
- "disabled" ,
- "uninitialized" ,
- "init_failed" ,
- "not_available" ,
- "invalid" ,
- "retry" ,
- "bad" ,
- "not_present" ,
- "failed" ,
- "ignored" ,
- "fault" ,
- "unknown"

[none]

Element definition: **sensor-type-enum**

[top]

fan|thermal|voltage|current|battery-life|discrete|fru|nvmem|counter|minutes|percent|agent|unknown Possible values:

- "fan" ,
- "thermal" ,

"voltage" ,
- "current" ,
- "battery_life" ,
- "discrete" ,
- "fru" ,
- "nvmem" ,
- "counter" ,
- "minutes" ,
- "percent" ,
- "agent" ,
- "unknown"

[none]

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **exports**

export-check-access-get-iter
export-policy-create
export-policy-destroy
export-policy-get
export-policy-get-iter
export-policy-rename
export-rule-add-clientmatches
export-rule-create
export-rule-destroy
export-rule-get
export-rule-get-create-defaults
export-rule-get-iter
export-rule-modify
export-rule-remove-clientmatches
export-rule-set-index
exports-access-cache-all-vservers-get
exports-access-cache-all-vservers-modify
exports-access-cache-config-get
exports-access-cache-config-get-iter
exports-access-cache-config-modify

This set of ZAPIs allows managing Export policies and rules for NFSv2, NFSv3, NFSv4, and CIFS protocols. Contains methods to create, modify, delete, and obtain information about Export policies and rules in a cluster. FlexGroups do not support Export policies that allow NFSv4 protocol access.

export-check-access-get-iter

[top]

Shows the access information for supplied client

Input Name	Range	Type	Description
access-type		export-access-rights	Access Rights to Check for
authentication-method		security-flavor	Authentication Method
client-ip		ip-address	Client IP Address
desired-attributes		export-check-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
protocol		access-protocol	Protocol
query		export-check-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Client access check information object. All Client access check information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
volume		volume-name	Volume Name

Output Name	Range	Type	Description
attributes-list		export-check-info[] optional	The list of attributes of Client access check information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Client access check information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

export-policy-create

[top]

Create an Export policy configuration.

Input Name	Range	Type	Description
policy-name		export-policy-name	Export policy name.
return-record		boolean optional	If set to true, returns the Export policy configuration. on successful creation. Default: false

Output Name	Range	Type	Description
result		export-policy-info optional	The Export policy configuration. created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

[top]

export-policy-destroy

Delete an Export policy configuration.

Input Name	Range	Type	Description
policy-name		export-policy-name	Export policy name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-policy-get

[top]

Get an Export policy configuration.

Input Name	Range	Type	Description
desired-attributes		export-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		export-policy-name	Export policy name.

Output Name	Range	Type	Description
attributes		export-policy-info	The attributes of the Export policy configuration..

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

export-policy-get-iter

[top]

Get a group of Export policy configurations.

Input Name	Range	Type	Description
desired-attributes		export-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		export-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Export policy configuration. object. All Export policy configuration. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		export-policy-info[] optional	The list of attributes of Export policy configuration. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Export policy configuration. objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

export-policy-rename

[top]

Rename an Export policy

Input Name	Range	Type	Description
new-policy-name		export-policy-name	New Export policy name.
policy-name		export-policy-name	Export policy name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-add-clientmatches

[top]

Add list of clientmatch strings to an existing export-policy rule

Input Name	Range	Type	Description
clientmatches		string	List of Clientmatch Strings to Add
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export policy rule index.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-create

[top]

Create an Export rule configuration.

Input Name	Range	Type	Description
anonymous-user-id		string optional	User name or ID to which anonymous users are mapped. Default value is '65534'.
client-match		string	List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence.
export-chown-mode		exportchownmode optional	Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'.
export-ntfs-unix-security-ops		exportntfsunixsecops optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'.
is-allow-dev-is-enabled		boolean optional	If 'true', the NFS server will allow creation of devices. Default value is 'true'.
is-allow-set-uid-enabled		boolean optional	If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'.
policy-name		export-policy-name	Export policy name.
protocol		access-protocol[] optional	Client access protocol. Default value is 'any'.
ro-rule		security-flavor[]	Rule for read-only access.
rule-index		integer optional	Export rule index. A next available value is assigned if no value is provided during create else the rule is inserted at the given rule index position in the export-rule table.
rw-rule		security-flavor[]	Rule for read-write access.
super-user-security		security-flavor[] optional	Security flavors for the superuser. Default value is 'none'.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-destroy

[top]

Delete an Export rule configuration.

Input Name	Range	Type	Description
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export rule index.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-get

[top]

Get an Export rule configuration.

Input Name	Range	Type	Description
desired-attributes		export-rule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export rule index.

Output Name	Range	Type	Description
attributes		export-rule-info	The attributes of the Export rule configuration..

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

export-rule-get-create-defaults

[top]

Obtain the default values for Export rule configuration

Input Name	Range	Type	Description
attributes		export-rule-info optional	Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute.

Output Name	Range	Type	Description
defaults		export-rule-info	The default attributes for the Export rule configuration..

export-rule-get-iter

[top]

Get a group of Export rule configurations.

Input Name	Range	Type	Description
desired-attributes		export-rule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		export-rule-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Export rule configuration. object. All Export rule configuration. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		export-rule-info[] optional	The list of attributes of Export rule configuration. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Export rule configuration. objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

export-rule-modify

[top]

Modify an Export rule configuration.

Input Name	Range	Type	Description
anonymous-user-id		string optional	User name or ID to which anonymous users are mapped. Default value is '65534'.
client-match		string optional	List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence.
export-chown-mode		exportchownmode optional	Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'.
export-ntfs-unix-security-ops		exportntfsunixsecops optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'.
is-allow-dev-is-		boolean	If 'true', the NFS server will allow creation of devices.

enabled		optional	Default value is 'true'.
is-allow-set-uid-enabled		boolean optional	If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'.
policy-name		export-policy-name	Export policy name.
protocol		access-protocol[] optional	Client access protocol. Default value is 'any'.
ro-rule		security-flavor[] optional	Rule for read-only access.
rule-index	**[0..2^32-1]**	integer	Export rule index.
rw-rule		security-flavor[] optional	Rule for read-write access.
super-user-security		security-flavor[] optional	Security flavors for the superuser. Default value is 'none'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-remove-clientmatches

[top]

Remove clientmatch strings from an existing export-policy rule

Input Name	Range	Type	Description
clientmatches		string	List of Clientmatch Strings to Remove
policy-name		export-policy-name	Export policy name.
rule-index	**[0..2^32-1]**	integer	Export policy rule index.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

export-rule-set-index

[top]

Move a rule to the specified index

Input Name	Range	Type	Description
new-rule-index	**[0..2^32-1]**	integer	New ruleindex value for the Export rule. The rule will be inserted into the rule-index position in the export-rule table.
policy-name		export-policy-name	Export policy name.

rule-index	**[0..2^32-1]**	integer	Export policy rule index.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

exports-access-cache-all-vservers-get

[top]

Get the NFS Exports Access Cache Refresh Periods.This API is deprecated in Data ONTAP 9.0.0 and later.

Input Name	Range	Type	Description
desired-attributes		access-cache-attributes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		access-cache-attributes-info	The attributes of the NFS Exports Access Cache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

exports-access-cache-all-vservers-modify

[top]

Modify the NFS Exports Access Cache Refresh Periods. This API is deprecated in Data ONTAP 9.0.0 and later.

Input Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	Harvest Timeout (Secs)
refresh-period-negative	**[60..86400]**	integer optional	TTL For Negative Entries (Secs)
refresh-period-positive	**[300..86400]**	integer optional	TTL For Positive Entries (Secs)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

exports-access-cache-config-get

[top]

Get the exports access cache configuration for the given Vserver.

Input Name	Range	Type	Description
desired-attributes		exports-access-cache-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		exports-access-cache-config-info	The attributes of the Exports Access Cache Configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

exports-access-cache-config-get-iter

[top]

Iterate over the list of Vservers for exports access cache configuration.

Input Name	Range	Type	Description
desired-attributes		exports-access-cache-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		exports-access-cache-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Exports Access Cache Configuration object. All Exports Access Cache Configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		exports-access-cache-	

list		config-info[] optional	The list of attributes of Exports Access Cache Configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Exports Access Cache Configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

exports-access-cache-config-modify

[top]

Modify the exports access cache configuration for the given Vserver.

Input Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds
ttl-failure	**[1..60]**	integer optional	TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds
ttl-negative	**[60..86400]**	integer optional	TTL in seconds for access cache entries that deny access. Default value is 3600 seconds
ttl-positive	**[300..86400]**	integer optional	TTL in seconds for access cache entries that allow access. Default value is 3600 seconds

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **access-cache-attributes-info**

[top]

NFS Exports Access Cache Attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	Harvest Timeout (Secs) Attributes: non-creatable, non-modifiable

refresh-period-negative	**[60..86400]**	integer optional	TTL For Negative Entries (Secs) Attributes: non-creatable, non-modifiable
refresh-period-positive	**[300..86400]**	integer optional	TTL For Positive Entries (Secs) Attributes: non-creatable, non-modifiable

Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

Element definition: **export-check-info**

[top]

Information about the client access. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			Access Rights Attributes: non-creatable, non-modifiable Possible values:

access		export-access-rights optional	• "read" - Read, • "read_write" - Read-Write, • "denied" - Denied
access-type		export-access-rights optional	Access Rights to Check for Attributes: key, non-creatable, non-modifiable Possible values: • "read" - Read, • "read_write" - Read-Write, • "denied" - Denied
authentication-method		security-flavor optional	Authentication Method Attributes: key, non-creatable, non-modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, • "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
client-ip		ip-address optional	Client IP Address Attributes: key, non-creatable, non-modifiable
path		string optional	Path Attributes: non-creatable, non-modifiable
policy		string optional	Export Policy Attributes: non-creatable, non-modifiable
policy-owner		string optional	Export Policy Owner Attributes: non-creatable, non-modifiable
policy-owner-type		policy-owner-type optional	Type of Export Policy Owner Attributes: non-creatable, non-modifiable Possible values: • "volume" - Volume, • "qtree" - Qtree
protocol		access-protocol optional	Protocol Attributes: key, non-creatable, non-modifiable Possible values: • "any" - Any, • "nfs2" - NFS Version 2, • "nfs3" - NFS Version 3, • "nfs" - Any Version of NFS, • "cifs" - CIFS, • "nfs4" - NFS Version 4, • "flexcache" - Flexcache, • "nfs4_1" - NFS Version 4.1, • "nfs4_2" - NFS Version 4.2
rule-index	**[0..2^32-1]**	integer optional	Export Policy Rule Index Attributes: non-creatable, non-modifiable
		security-	Security Style Attributes: non-creatable, non-modifiable Possible values: • "unix" - NFS,

security-style		style-enum optional	• "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **export-policy-info**

[top]

Information about the Export policy configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
policy-id	**[0..2^64-1]**	integer optional	Export policy id. Attributes: non-creatable, non-modifiable
policy-name		export-policy-name optional	Export policy name. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

Element definition: **export-rule-info**

[top]

Information about the Export rule configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
anonymous-user-id		string optional	User name or ID to which anonymous users are mapped. Default value is '65534'. Attributes: optional-for-create, modifiable
client-match		string optional	List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. Attributes: required-for-create, modifiable
export-chown-mode		exportchownmode optional	Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. Attributes: optional-for-create, modifiable Possible values: • "restricted" , • "unrestricted"
export-ntfs-unix-security-ops		exportntfsunixsecops optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. Attributes: optional-for-create, modifiable Possible values: • "ignore" , • "fail"
is-allow-dev-is-enabled		boolean optional	If 'true', the NFS server will allow creation of devices. Default value is 'true'. Attributes: optional-for-create, modifiable
is-allow-set-uid-enabled		boolean optional	If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. Attributes: optional-for-create, modifiable
policy-name		export-policy-name optional	Export policy name. Attributes: key, required-for-create, non-modifiable
protocol		access-protocol[] optional	Client access protocol. Default value is 'any'. Attributes: optional-for-create, modifiable Possible values: • "any" - Any, • "nfs2" - NFS Version 2, • "nfs3" - NFS Version 3, • "nfs" - Any Version of NFS, • "cifs" - CIFS, • "nfs4" - NFS Version 4, • "flexcache" - Flexcache, • "nfs4_1" - NFS Version 4.1, • "nfs4_2" - NFS Version 4.2
ro-rule		security-flavor[] optional	Rule for read-only access. Attributes: required-for-create, modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,

			• "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
rule-index	**[0..2^32-1]**	integer optional	Export rule index. Attributes: key, optional-for-create, non-modifiable
rw-rule		security-flavor[] optional	Rule for read-write access. Attributes: required-for-create, modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, • "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
super-user-security		security-flavor[] optional	Security flavors for the superuser. Default value is 'none'. Attributes: optional-for-create, modifiable Possible values: • "any" - Any, • "none" - Anonymous Access Allowed If Security Type Not Already Listed, • "never" - Never, • "krb5" - Kerberos 5 Authentication, • "krb5i" - Kerberos 5 Authentication With Data Integrity Protection, • "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, • "ntlm" - CIFS NTLM, • "sys" - NFS AUTH_SYS
vserver-name		string optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **exportchownmode**

[top]

restricted|unrestricted Possible values:

- "restricted" ,
- "unrestricted"

[none]

Element definition: **exportntfsunixsecops**

[top]

ignore|fail Possible values:

"ignore" ,
- "fail"

[none]

Element definition: **exports-access-cache-config-info** [top]

Information about Exports Access Cache Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
harvest-timeout	**[60..2592000]**	integer optional	The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds Attributes: non-creatable, modifiable
ttl-failure	**[1..60]**	integer optional	TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds Attributes: non-creatable, modifiable
ttl-negative	**[60..86400]**	integer optional	TTL in seconds for access cache entries that deny access. Default value is 3600 seconds Attributes: non-creatable, modifiable
ttl-positive	**[300..86400]**	integer optional	TTL in seconds for access cache entries that allow access. Default value is 3600 seconds Attributes: non-creatable, modifiable
vserver		string optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **security-flavor** [top]

authentication method Possible values:

- "any" - Any,
- "none" - Anonymous Access Allowed If Security Type Not Already Listed,
- "never" - Never,
- "krb5" - Kerberos 5 Authentication,
- "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,

- "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,
- "ntlm" - CIFS NTLM,
- "sys" - NFS AUTH_SYS

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

Element definition: **policy-owner-type**

[top]

volume|qtree Possible values:

- "volume" - Volume,
- "qtree" - Qtree

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **fc**

fc-config-adapter-disable
fc-config-adapter-enable
fc-config-list-info
fc-config-list-iter-end
fc-config-list-iter-next
fc-config-list-iter-start
fc-config-set-adapter-fc-type

Data ONTAP supports three separate functions with Fibre channel controllers:

- Initiator mode for FC storage loops, FC TapeSAN, and OPR functionality
- Target mode for SAN attach (FCP/Blocks access) functionality
- FC-VI mode for MetroCluster/SlideRuler interconnect functionality

These three functions are controlled by separate drivers. As DOT boots, the device driver attached to each FC adapter determines which function an adapter will support.

The fc-config interface provides a user programmable mechanism to configure the personality of Fibre channel adapters by changing what driver attached to the adapter. Not all Fibre channel adapters support FC configuration.

For more information refer to the "fcadmin config" CLI.

fc-config-adapter-disable

[top]

Call the corresponding adapter driver disable function to bring the adapter offline. Under some circumstances an adapter can not be put offline. (e.g. when the adapter is being used by the RAID sub-system to provide disks in a volume). In some cases, manual intervention is required. When this happens, an appropriate error messages is returned.

Input Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g. 0a)
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
ENOTSTARTED	
EONTAPI_EINVAL	
ENODENOTFOUND	

fc-config-adapter-enable

[top]

Call the corresponding adapter driver enable function to bring the adapter online. Under some circumstances an adapter can not be brought online. (e.g. when that adapter is in the UNCONFIGURED

state, or when there is no cable attached to the adapter port). When this happens, an appropriate error messages is returned.

Input Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g 0a)
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
ENOTSTARTED	
EONTAPI_EINVAL	
ENODENOTFOUND	

fc-config-list-info

[top]

Iterate over a list of fc objects.

Input Name	Range	Type	Description
desired-attributes		fc-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fc-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fc object. All fc objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fc-config[] optional	The list of attributes of fc objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fc objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EINTERNALERROR	
EADAPTERNOTFOUND	

EADAPTERINVALIDTYPE	
ENOTSTARTED	
ENODENOTFOUND	

fc-config-list-iter-end

[top]

Terminate the fc-config-list iteration

Input Name	Range	Type	Description
tag		string	Tag from a previous fc-config-list-iter-start.

Errno	Description
EONTAPI_ENOENT	

fc-config-list-iter-next

[top]

Obtain a list of FC adapter configuration information. Only provides information for adapters that are configurable.

Input Name	Range	Type	Description
maximum		integer	Maximum number of entries to retrieve.
tag		string	Tag from a previous fc-config-list-iter-start.

Output Name	Range	Type	Description
adapter-info		fc-config-info[]	List of adapter information
records		integer	This tells you how many records are being returned. When this value is 0, you have retrieved everything.

Errno	Description
EONTAPI_ENOENT	

fc-config-list-iter-start

[top]

Start iteration through the list of adapter configuration information.

Output Name	Range	Type	Description
records		integer	Number of items that have been saved for future retrieval with fc-config-list-iter-next.
tag		string	Tag to be used in subsequent iterations.

Errno	Description
EINTERNALERROR	

EOPNOTSUPPORTED	

fc-config-set-adapter-fc-type

[top]

fc-config-set-adapter-fc-type changes the adapter driver and/or configuration state. Each configurable adapter has an adapter-type and adapter-state. The adapter-type indicates which driver is attached to the adapter, the adapter-state indicates what the configuration state of the adapter is. The fc-type is used to modify both the adapter-type and the adapter-state. After setting the adapter fc-type a filer reboot is sometimes needed to make the change effective. Use fc-config-list-info to determine if a filer reboot is needed.

Input Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g 0a)
fc-type		string	Sets the type and state of the adapter. Possible inputs: "unconfigured" - set adapter-type to "initiator" and adapter-state to UNCONFIGURED "initiator" - set adapter-type to "initiator" and adapter-state to CONFIGURED "target" - set adapter-type to "target" and adapter-state to CONFIGURED "vi" - set adapter-type to "vi" and adapter-state to CONFIGURED
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EOPNOTSUPPORTED	
EONTAPI_EINVAL	
ENODENOTFOUND	

Element definition: **fc-config**

[top]

fc config When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Adapter name Attributes: key, non-creatable, non-modifiable

adapter-state		string optional	Adapter current state Attributes: non-creatable, non-modifiable
adapter-status		string optional	Adapter online status Attributes: non-creatable, non-modifiable
adapter-type		string optional	Adaptaer type Attributes: non-creatable, non-modifiable
node-name		string optional	Node name Attributes: key, non-creatable, non-modifiable
pending-fc-type		string optional	Pending reason Attributes: non-creatable, non-modifiable

Element definition: **fc-config-info**

[top]

Name	Range	Type	Description
adapter-name		string	FC adapter name (e.g. 0c)
adapter-state		string	Indicates what the adapter configuration state is. Possible values: "UNDEFINED" - The default state. The adapter has never been configured. "CONFIGURED" - The adapter port is configured and the adapter is operational. "UNCONFIGURED" - The adapter is unconfigured. The initiator driver is attached, but the adapter is not operational. "PENDING" - The adapter is waiting for a filer reboot to effect an fc-type change. While in the PENDING state the adapter can not be used
adapter-status		string	Possible values: "online" - adapter driver is enabled "offline" - adapter driver is disabled
adapter-type		string	Indicates which driver is attached to the adapter. Possible values: "initiator" - the storage Initiator driver (default) "vi" - the FC-VI cluster interconnect driver "target" - the FCP Target driver
pending-fc-type		string optional	If adapter-state is PENDING, this value tells what the last fc-config-set-adapter-fc-type command was.

APIs in Category: **fcp**

fcp-adapter-clear-partner
fcp-adapter-config-down
fcp-adapter-config-media-type
fcp-adapter-config-up
fcp-adapter-get-iter
fcp-adapter-initiators-list-info
fcp-adapter-list-info
fcp-adapter-nameserver-list-iter-end
fcp-adapter-nameserver-list-iter-next
fcp-adapter-nameserver-list-iter-start
fcp-adapter-reset-stats
fcp-adapter-set-partner
fcp-adapter-set-speed
fcp-adapter-stats-get-iter
fcp-adapter-stats-list-info
fcp-adapter-topology-list-iter-end
fcp-adapter-topology-list-iter-next
fcp-adapter-topology-list-iter-start
fcp-adapter-zone-list-iter-end
fcp-adapter-zone-list-iter-next
fcp-adapter-zone-list-iter-start
fcp-get-cfmode
fcp-initiator-get-iter
fcp-interface-get-iter
fcp-nameserver-get-iter
fcp-node-get-name
fcp-node-set-name
fcp-ping
fcp-ping-igroup-view-get-iter
fcp-ping-info
fcp-ping-initiator-get-iter
fcp-port-name-get-iter
fcp-port-name-list-info
fcp-port-name-set
fcp-port-name-swap
fcp-service-create
fcp-service-destroy
fcp-service-get-iter
fcp-service-start
fcp-service-status
fcp-service-stop
fcp-set-cfmode
fcp-tdz-get-iter
fcp-topology-get-iter
fcp-topology-port-get-iter
fcp-wwpnalias-get-alias-info
fcp-wwpnalias-get-iter
fcp-wwpnalias-remove
fcp-wwpnalias-set

fcp-zone-get-iter

fcp-adapter-clear-partner

[top]

Removes the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

Input Name	Range	Type	Description
fcp-adapter		string	Local FC adapter.

Errno	Description
EOPNOTSUPPORTED	

fcp-adapter-config-down

[top]

Bring a Fibre Channel target adapter offline. The adapter may not be offline immediately after the call returns, it may take up to a few seconds for the adapter to change state. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. adapter to change state. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC adapter to bring offline.
node		string	The name of the storage system node where the adapter is installed.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
ENTAPI_EINVAL	

fcp-adapter-config-media-type

[top]

Sets the link type on the Fibre Channel target adapter. It can be configured to establish a point-to-point link, a loop configuration or to automatically sense whether the connection type is a point-to-point or loop link. Setting the link to point-to-point in a loop configuration can prevent the loop from coming up properly. If the adapter is online, it must be brought offline and then online in order for a new mediatype to take effect. This may temporarily disrupt fcp service on the target adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC adapter to bring offline.

media-type		string	Media type to set. Valid values are point-to-point ("ptp"), loop configuration ("loop"), or automatic ("auto").

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
ECLUSTERED	
EONTAPI_EINVAL	

fcp-adapter-config-up

[top]

Bring a Fibre Channel target adapter online. The adapter may not be online immediately after the call returns, it may take up to a few seconds for the adapter to initialize. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC adapter to bring online.
node		string	The name of the storage system node where the adapter is installed.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
EONTAPI_EINVAL	

fcp-adapter-get-iter

[top]

Iterate over the list of physical FC adapters.

Input Name	Range	Type	Description
desired-attributes		fcp-config-adapter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-config-adapter-	A query that specifies which objects to return. A query could be specified on any number of attributes in the FC Adapter object. All

		info optional	FC Adapter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-config-adapter-info[] optional	The list of attributes of FC Adapter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FC Adapter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to the specified Fibre Channel target adapter, or if none specified, a list of initiators connected to any FC target adapter. Information returned for each initiator includes the portname of initiators that are currently logged in with the the FC target adapters. If the portname is in an initiator group, then the group name is also included. Also the Fibre Channel host address and the nodename/portname of the initiators are included as well. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurred for while retrieving connection status for an adapter, status for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any fcp adapter in the system.

Output Name	Range	Type	Description
fcp-adapters		fcp-adapter-initiators-info[]	A list of FC adapters containing list of initiators and their aliases.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-adapter-list-info

[top]

Gets information such as nodename/portname and link state about the specified Fibre Channel target adapter, or if no adapter is specified, about all the FC target adapters.

Input Name	Range	Type	Description
fcp-adapter		string optional	FC target Adapter to get config information for. If no adapter is specified, information is returned for all FC target Adapters.
partner-only		boolean optional	This field is obsolete and no longer used beginning with Data ONTAP 8.0.
verbose		boolean optional	If specified with "true", additional adapter info is returned. Look at description of output for what additions.

Output Name	Range	Type	Description
fcp-config-adapters		fcp-config-adapter-info[]	List of adapter configuration information.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
ENOADAPTERNOTFOUND	
ENOVIRTUALADAPTERS	

Vfiler-enabled
Yes

fcp-adapter-nameserver-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous fcp-adapter-nameserver-list-iter-start.

Vfiler-enabled
Yes

fcp-adapter-nameserver-list-iter-next

[top]

Return items from a previous call to fcp-adapter-nameserver-list-iter-start Information returned for each nameserver entry include the port identifier, port type, port name, node name, symbolic port name, symbolic node name, fabric port name, class of service, and registered FC4 types.

Input Name	Range	Type	Description

maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous fcp-adapter-nameserver-list-iter-start.

Output Name	Range	Type	Description
fcp-adapter-nameserver-objects		fcp-adapter-nameserver-object-info[]	List of nameserver objects.
records		integer	This tells you how many records are being returned from this particular call to fcp-adapter-nameserver-list-iter-next When this value is 0, you have retrieved everything.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fcp-adapter-nameserver-list-iter-start

[top]

Get the fabric nameserver objects the results of which are retrieved by using fcp-adapter-nameserver-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get nameserver objects for. If no adapter is specified, information is returned for all fcp adapter.
zoned		boolean optional	If true, returns only devices that are zoned to the target adapter. Otherwise, all devices in the fabric are returned. Default is false.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with fcp-adapter-nameserver-list-iter-next.
tag		string	Tag to be used in subsequent calls to fcp-adapter-nameserver-list-iter-next.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-adapter-reset-stats

[top]

Resets the stats for the specified Fibre Channel Target Adapter. If none specified, reset stats for all FC adapters.

Input Name	Range	Type	Description
fcp-adapter		string optional	FC Target adapter.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

fcp-adapter-set-partner

[top]

Sets the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

Input Name	Range	Type	Description
fcp-adapter		string	Local FC adapter.
partner-adapter		string	Partner FC adapter to takeover.

Errno	Description
EOPNOTSUPPORTED	

fcp-adapter-set-speed

[top]

Sets the speed on the Fibre Channel target adapter. It can be configured to run at 1Gb, 2Gb, 4Gb, 8Gb, 10Gb, 16Gb or to auto negotiate. The 10Gb adapter only supports the 10Gb speed. The 16Gb adapter only supports speeds of 16Gb, 8Gb, and 4Gb. The 8Gb adapter only supports speeds of 8Gb, 4Gb, and 2Gb. The 4Gb adapter only supports speeds of 4Gb, 2Gb, and 1Gb. If the adapter is online it must be brought offline before setting the speed, and then online in order for a new speed to take effect. This may temporarily disrupt fcp service on the target adapter.

Input Name	Range	Type	Description
fcp-adapter		string	FC Target adapter
node		string	The name of the storage system node where the adapter is installed.
speed		string	Link speed (in Gb). Possible values: "1", "2", "4", "8", "10", "16" or "auto" (auto negotiate speed).

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EADAPTERPARTNER	
ENOTSTARTED	
EONTAPI_EINVAL	

fcp-adapter-stats-get-iter

[top]

Iterate over a list of fcp objects.

Input Name	Range	Type	Description
desired-attributes		fcp-adapter-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-adapter-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fcp object. All fcp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-adapter-stats-info[] optional	The list of attributes of fcp objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fcp objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-adapter-stats-list-info

[top]

Get statistics about the Fibre Channel target adapters. Statistics of adapters running on behalf of partners are not included in the list when requesting stats for all adapters. If listing stats for all adapters and an error occurred for while retrieving stats for an adapter, stats for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	FC target Adapter. If no adapter is specified, statistics for all the adapters are returned.

Output Name	Range	Type	Description
fcp-adapter-		fcp-adapter-	List of statistics for FC adapters.

stats		stats-info[]	

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

fcp-adapter-topology-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous fcp-adapter-topology-list-iter-start.

Vfiler-enabled
Yes

fcp-adapter-topology-list-iter-next

[top]

Return items from a previous call to fcp-adapter-topology-list-iter-start Information returned for each switch includes the nodename, logical name, domain identifier, vendor, release version, and port information. If a port has devices attached to it, then information about each attached device is included as well.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous fcp-adapter-topology-list-iter-start.

Output Name	Range	Type	Description
fcp-adapter-topology-switches		fcp-adapter-topology-switch-info[]	Information about the connected FC switch.
records		integer	This tells you how many records are being returned from this particular call to fcp-adapter-topology-list-iter-next When this value is 0, you have retrieved everything.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fcp-adapter-topology-list-iter-start

[top]

Get the fabric topology for one or more switches the results of which are retrieved by using fcp-adapter-topology-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, information for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get topology information for. If no adapter is specified, information is returned for all fcp adapter.
verbose		boolean optional	If true, returns verbose information including port information about each switch in the fabric. Default is true.
zoned		boolean optional	If true, returns only devices in the fabric that are zoned to the target adapter. Default is false.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with fcp-adapter-topology-list-iter-next.
tag		string	Tag to be used in subsequent calls to fcp-adapter-topology-list-iter-next.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-adapter-zone-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous fcp-adapter-zone-list-iter-start.

Vfiler-enabled
Yes

fcp-adapter-zone-list-iter-next

[top]

Return items from a previous call to fcp-adapter-zone-list-iter-start Information returned for each zone entry include the active zone set name, the zone name, and the zone members.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range: [0..2^32-1]
tag		string	Tag from a previous fcp-adapter-zone-list-iter-start.

Output Name	Range	Type	Description
fcp-adapter-zones		fcp-adapter-zone-info[]	List of zone entries.
records		integer	This tells you how many records are being returned from this particular call to fcp-adapter-zone-list-iter-next When this value is 0, you have retrieved everything. Range: [0..2^32-1]

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fcp-adapter-zone-list-iter-start

[top]

Get the active zone set information from the zone server. The results can then be retrieved by using fcp-adapter-zone-list-iter-next. Connectivity of adapters running on behalf of partners is not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

Input Name	Range	Type	Description
fcp-adapter		string optional	Adapter to get zone information for. If no adapter is specified, information is returned for all fcp adapter.

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with fcp-adapter-zone-list-iter-next. Range: [0..2^32-1]
tag		string	Tag to be used in subsequent calls to fcp-adapter-zone-list-iter-next.

Errno	Description
EINTERNALERROR	
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

fcp-get-cfmode

[top]

Get the current cfmode setting for the system.

Output Name	Range	Type	Description
fcp-cfmode		string	Current FCP cfmode setting. Possible values: single_image, unknown

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	

fcp-initiator-get-iter

[top]

List all initiators connected to FCP target LIFs.

Input Name	Range	Type	Description
desired-attributes		fcp-adapter-initiators-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-adapter-initiators-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the connected FCP initiator object. All connected FCP initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-adapter-initiators-info[] optional	The list of attributes of connected FCP initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more connected FCP initiator objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-interface-get-iter

[top]

Iterate over a list of FCP Target Logical Interfaces (LIF).

Input Name	Range	Type	Description
desired-attributes		fcp-interface-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP data LIF object. All FCP data LIF objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-interface-info[] optional	The list of attributes of FCP data LIF objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP data LIF objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-nameserver-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

Input Name	Range	Type	Description
desired-attributes		fcp-nameserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-nameserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric name server database. object. All Shows entries in the fabric name server database. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-nameserver-info[] optional	The list of attributes of Shows entries in the fabric name server database. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows entries in the fabric name server database. objects to

			return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-node-get-name

[top]

Get the current FCP World Wide Node Name (WWNN). This WWNN name is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. In Data ONTAP 7-Mode, this is the WWNN of the individual storage system. In "single_image" cfmode, the WWNN of the system and its high availability partner will be the same. In Data ONTAP Cluster-Mode, this is the WWNN of the Vserver FCP Service.

Output Name	Range	Type	Description
node-name		string	Current FCP World Wide Node Name (WWNN).

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

fcp-node-set-name

[top]

Set the current FCP World Wide Node Name (WWNN). This WWNN is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. The provided WWNN must also be within one of the allowed vendor-registered namespaces unless the force parameter is specified. In Data ONTAP 7-Mode, all Fibre Channel adapters must be offline. The allowed vendor namespace is "50:0a:09:80:8X:XX:XX". Changes will take place when the adapters are brought online. In Data ONTAP Cluster-Mode, the FCP service must be offline. The allowed vendor namespace is one of following:

- 2X:XX:00:a0:98:XX:XX:XX
- 2X:XX:00:a0:b8:XX:XX:XX
- 2X:XX:d0:39:ea:XX:XX:XX

Changes will take place when the service is brought online.

Input Name	Range	Type	Description
force		boolean optional	If true, allow setting the WWNN to a value outside the vendor's registered namespace for the current mode. If false or not present, the request will fail unless the supplied WWNN is inside the correct namespace.
node-name		string	FCP World Wide Node Name.

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EALREADYSTARTED	
EOPNOTSUPPORTED	

EVDISK_ERROR_DUPLICATE_TARGET_NAME	
E_SAN_NOT_READY	

fcp-ping

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged.

Input Name	Range	Type	Description
fcp-adapter		string	Adapter to send the ping request from.
payload		string optional	Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long.
port-id-or-wwpn		string	The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.

Errno	Description
EHOSTNOTFOUND	
EONTAPI_EHOSTDOWN	
EADAPTERNOTFOUND	
EONTAPI_EINVAL	

fcp-ping-igroup-view-get-iter

[top]

Iterate over a list of FCP ping igroup results objects.

Input Name	Range	Type	Description
desired-attributes		fcp-ping-igroup-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-ping-igroup-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping igroup results object. All FCP ping igroup results objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		fcp-	

attributes-list		ping-igroup-status-info[] optional	The list of attributes of FCP ping igroup results objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP ping igroup results objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-ping-info

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. The API pings the address or WWPN count times and returns the number of successful pings and times. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged. The interval between ping attempts is 1 second.

Input Name	Range	Type	Description
fcp-adapter		string	Adapter to send the ping request from.
payload		string optional	Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long.
ping-count		integer optional	The number of pings. Default is 3. Range: [1..16]
port-id-or-wwpn		string	The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.

Output Name	Range	Type	Description
frames-received		integer optional	The number of frames received. The number of frames lost is the frames-transmitted minus frames-received. Range: [0..16]
frames-transmitted		integer optional	Number of frames transmitted. Should be equal to ping-count. Range: [1..16]
round-trip-maximum-time		integer optional	Maximum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1]
round-trip-mean-time		integer optional	Mean time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1]
round-trip-minimum-time		integer optional	Minimum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1]

Errno	Description
EHOSTNOTFOUND	
EONTAPI_EHOSTDOWN	
EADAPTERNOTFOUND	
EONTAPI_EINVAL	

fcp-ping-initiator-get-iter

[top]

Iterate over a list of FCP ping by FCP initiator objects.

Input Name	Range	Type	Description
desired-attributes		fcp-ping-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-ping-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping by FCP initiator object. All FCP ping by FCP initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-ping-status-info[] optional	The list of attributes of FCP ping by FCP initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP ping by FCP initiator objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-port-name-get-iter

[top]

Iterate over the list of valid Fibre Channel target port names on a Vserver's FCP LIFs.

Input Name	Range	Type	Description
desired-attributes		fcp-port-name-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
		fcp-	

query		port-name-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Fibre Channel target port name object. All Fibre Channel target port name objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-port-name-info[] optional	The list of attributes of Fibre Channel target port name objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Fibre Channel target port name objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-port-name-list-info

[top]

Get the list of valid Fibre Channel target port names on a filer's local adapters. The filer needs to be in standby or single_image cfmode.

Input Name	Range	Type	Description
verbose		boolean optional	If specified with "true", unused port names are also reported. Default value is "false".

Output Name	Range	Type	Description
fcp-port-names		fcp-port-name-info[]	List of valid local port names and associated adapters.

Errno	Description
EOPNOTSUPPORTED	
EADAPTERNOTFOUND	

fcp-port-name-set

[top]

Set a valid but unused port name on a Fibre Channel target interface.

Input Name	Range	Type	Description
fcp-adapter		string	FCP target interface to set the WWPN on. In Data ONTAP 7-Mode, the name of a local adapter in standby single_image cfmode. In Data ONTAP Cluster-Mode, the name of an FCP data LIF in the vserver.

port-name		string	WWPN to be set on the interface. It has to be a valid and unused one.

Errno	Description
EOPNOTSUPPORTED	
EONTAPI_EINVAL	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EINTERNALERROR	
EALREADYSTARTED	
E_SAN_NOT_READY	

fcp-port-name-swap

[top]

Swap port names of two local Fibre Channel target adapters.

Input Name	Range	Type	Description
fcp-adapter-1		string	One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode.
fcp-adapter-2		string	One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode.

Errno	Description
EOPNOTSUPPORTED	
EONTAPI_EINVAL	
EADAPTERNOTFOUND	
EADAPTERINVALIDTYPE	
EINTERNALERROR	
EALREADYSTARTED	
E_SAN_NOT_READY	

fcp-service-create

[top]

Create an FCP Service in a Vserver. Each Vserver requires an online FCP Service in order to serve data via the Fibre Channel protocol.

Input Name	Range	Type	Description
force-node-name		boolean optional	If true, allow setting the WWNN to a value outside the vendor's registered namespaces. If false, the node-name must match one of the following namespaces: • 2X:XX:00:a0:98:XX:XX:XX • 2X:XX:00:a0:b8:XX:XX:XX • 2X:XX:d0:39:ea:XX:XX:XX . The default i false.
node-name		string optional	The FCP World Wide Node Name (WWNN) for the FCP service. If not provided, one will be auto-generated.

start		boolean optional	Determine the initial state of the FCP Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call fcp-service-start to start the service. The default is true.

Output Name	Range	Type	Description
node-name		string	The world-wide node name (WWNN) of the FCP target in the Vserver.

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EVDISK_ERROR_DUPLICATE_TARGET_NAME	
EONTAPI_EEXIST	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
FCP

fcp-service-destroy

[top]

Destroy the FCP Service in a Vserver.

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
FCP

fcp-service-get-iter

[top]

Iterate over the list of FCP Services.

Input Name	Range	Type	Description
desired-attributes		fcp-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		fcp-	A query that specifies which objects to return. A query could be

query		service-info optional	specified on any number of attributes in the FCP Service object. All FCP Service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-service-info[] optional	The list of attributes of FCP Service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more FCP Service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-service-start

[top]

Starts FCP service. When FCP service is started, the adapters are brought online. The service will be available once the call returns with success. The adapters however, may not be available immediately after the call, it may take up to a few seconds for the adapters to initialize.

Errno	Description
EINTERNALERROR	
EALREADYSTARTED	
VDISK_ERROR_CFMODE_MISMATCH	
VDISK_ERROR_PARTNER_NOT_REACHABLE	
EREVERTINPROGRESS	
VDISK_ERROR_PARTNER_WWNN_MISMATCH_FOR_SSI	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	

fcp-service-status

[top]

Get status of the FCP service, whether or not it is running.

Output Name	Range	Type	Description
is-available		boolean	"true" if FCP service is running, "false" otherwise.

Errno	Description
EINTERNALERROR	

fcp-service-stop

[top]

Stops FCP service. When FCP service is stopped, the adapters are brought offline. The service will be unavailable once the call returns with success.

Errno	Description
EINTERNALERROR	
ENOTSTARTED	
E_SAN_NOT_READY	

fcp-set-cfmode

[top]

Set the current cfmode setting for the system. This setting controls how the cluster behaves during a takeover/giveback. It also controls if the filer should use multiple virtual target adapters per physical target adapter. fcp service must be stopped before executing this API. The only valid value for cfmode is 'single_image' If cfmode is set to 'single_image' the filer connects to the FC fabric in ptp mode by default but is configurable, and all luns in the cluster are visible on all FC target ports. In this mode all hosts require multipathing software. When setting the cfmode to 'single_image' configuration checks are performed. If these checks fail an EPERM error will be returned. See the lun-config-check-single-image-info API for more information.

Input Name	Range	Type	Description
fcp-cfmode		string	Set current cfmode setting. Possible values: single_image
force		boolean optional	Forcibly change the cfmode, overriding cluster partner checks. Obsolete.

Errno	Description
ENOTCLUSTERED	
ESERVICENOTSTOPPED	
EINTERNALERROR	
EONTAPI_EINVAL	
EONTAPI_EPERM	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_IN_TAKEOVER	

fcp-tdz-get-iter

[top]

Iterates over the list of entries in the tdz database.

Input Name	Range	Type	Description
desired-attributes		fcp-tdz-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-tdz-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric tdz database. object. All Shows entries in the fabric tdz database. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-tdz-info[] optional	The list of attributes of Shows entries in the fabric tdz database. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows entries in the fabric tdz database. objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-topology-get-iter

[top]

Iterates over the list of FCP topology interconnect elements.

Input Name	Range	Type	Description
desired-attributes		fcp-topology-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-topology-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Show FCP topology interconnect elements. object. All Show FCP topology interconnect elements. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-topology-info[] optional	The list of attributes of Show FCP topology interconnect elements. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Show FCP topology interconnect elements. objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

fcp-topology-port-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

Input Name	Range	Type	Description
desired-attributes		fcp-topology-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fcp-topology-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows FCP topology interconnect elements per adapter. object. All Shows FCP topology interconnect elements per adapter. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-topology-port-info[] optional	The list of attributes of Shows FCP topology interconnect elements per adapter. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows FCP topology interconnect elements per adapter. objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-wwpnalias-get-alias-info

[top]

Get the list of WWPN for a given alias or an alias for for a given WWPN or complete list of all current alias- WWPN mappings.

Input Name	Range	Type	Description
alias		string optional	Alias for a WWPN is the 32-character alias that may contain A-Z, a-z, 0-9, _,-,.,{,} and no spaces. When supplied, the alias with the corresponding WWPN will be returned. Otherwise, all aliases with their

			WWPNs present in the system will be returned.
wwpn		string optional	WWPN for which all aliases will be returned. When supplied all aliases for that WWPN will be returned. Otherwise, all aliases with their WWPNs present in the system will be returned.

Output Name	Range	Type	Description
aliases		aliases-info[]	A list of alias-WWPN mappings

Errno	Description
EVDISK_ERROR_WWPN_ALIASES_NOT_SET	
EVDISK_ERROR_WWPN_ALIAS_INVALID	
EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS	

Vfiler-enabled
Yes

fcp-wwpnalias-get-iter

[top]

Iterate over the list of assigned World Wide Port Name (WWPN) aliases.

Input Name	Range	Type	Description
desired-attributes		aliases-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		aliases-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the WWPN aliases object. All WWPN aliases objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		aliases-info[] optional	The list of attributes of WWPN aliases objects.
next-tag		string optional	Tag for the next call. Not present when there are no more WWPN aliases objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fcp-wwpnalias-remove

[top]

Remove an alias for a World Wide Port Name of an initiator. Either the alias or the wwpn argument must be provided.

Input Name	Range	Type	Description
alias		string optional	WWPN Alias to be removed. Either the alias or the wwpn argument must be provided.
wwpn		string optional	WWPN for which all aliases are to be removed. Either the wwpn or the alias argument must be provided.

Errno	Description
EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND	
EVDISK_ERROR_WWPN_NOT_FOUND	
EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS	

fcp-wwpnalias-set

[top]

Set an alias for a World Wide Port Name of an initiator that might login to the target.

Input Name	Range	Type	Description
alias		string	Alias to be set for the given WWPN ("wwpn"); The alias can be 32-characters long and may contain: A-Z, a-z, 0-9, _,-,.,{,} and no spaces
force		boolean optional	When set to true, the WWPN associated with the alias will be over-written. Default value is false.
wwpn		string	WWPN for which alias is being set

Errno	Description
EVDISK_ERROR_WWPN_ALIASES_TOO_MANY	
EVDISK_ERROR_WWPN_ALIAS_INVALID	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_WWPN_ALIAS_ALREADY_SET	

fcp-zone-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

Input Name	Range	Type	Description
desired-attributes		fcp-zone-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		fcp-zone-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows the active zone set information. object. All Shows the active zone set information. objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fcp-zone-info[] optional	The list of attributes of Shows the active zone set information. objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Shows the active zone set information. objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **aliases-info**

[top]

A list of WWPNs and their aliases generated according to the input - alias, WWPN or nothing.

Name	Range	Type	Description
aliases-alias		string	The 32-character alias for a given FCP WWPN
aliases-wwpn		string	The FCP WWPN for which the alias is given
vserver		string optional	Vserver containing the alias

Element definition: **fcp-adapter-initiators-info**

[top]

A list of initiators currently connected to the FC adapter or FCP data LIF.

Name	Range	Type	Description
adapter		string	In Data ONTAP 7-Mode, the name of the physical FC adapter. In Data ONTAP Cluster-Mode, the name of the FC data LIF.
data-protocol		fcp-adapter-data-protocol optional	The data protocol of the LIF. This field is available in Data ONTAP 9.4 and later.
fcp-connected-initiators		fcp-connected-initiator-info[]	Information about the connected initiators
vserver		string optional	Vserver of the FCP LIF.

Element definition: **fcp-adapter-nameserver-object-info**

[top]

Information about a nameserver object entry.

Name	Range	Type	Description
adapter		string	The adapter this nameserver object is visible through.
class-service		string optional	Registered class of services as defined in the FC-FS standard. This element is omitted if the device has not registered a class of service. Comma separated possible values: "F", "1", "2", "3", "4", and "6".
fabric-port-name		string optional	Fabric world wide port name (WWPN) of this entry. This element is omitted if the fabric WWPN is not registered.
fc4-type		string optional	Registered FC4 Types. This element is omitted if the device has not registered an FC4 Type. Comma separated possible values: "llc/snap", "ipfc", "fcp", "gpp", "ipi-3m", "ipi-3s", "ipi-3p", "sbccs-ch", "sbccs-cu", "fc-sb-3_ch2cu", "fc-sb-3_cu2ch", "fc-gs", "fc-sw", "fc-al", "snmp", "hippi-fp", "mil-std-1553", "asm", "fc-vi", and "fc-av".
node-name		string optional	World wide node name (WWNN) of this entry. This element is omitted if the device has not registered a WWNN.
port-id		integer	Assigned port identifier of this entry. Range: [0..2^24-1]
port-name		string optional	World wide port name (WWPN) of this entry. This element is omitted if the device has not registered a WWPN.
port-type		string	Port type of this entry. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none".
symbolic-node-name		string optional	Registered symbolic node name. If the device has not registered one, this element will be omitted.
symbolic-port-name		string optional	Registered symbolic port name. If the device has not registered one, this element will be omitted.

Element definition: **fcp-adapter-stats-info**

[top]

Statistics for one FC adapter. Starting Data ONTAP 8.3, the SFP related attributes have been superseded by the same attributes in type fcp-config-adapter-info, and are retained in here for compatibility only.

Name	Range	Type	Description
adapter		string	Which FC adapter.
adapter-resets		integer	Number of adapter resets occurred.
crc-errors		integer	Total CRC errors occurred.
discarded-frames		integer	Number of frames discarded by the target HBA. Range [0..2^31-1]
frame-overruns		integer	Number of frame overruns detected by the adapter during write requests.
frame-underruns		integer	Number of frame underruns detected by the adapter during read requests.
initiators-		integer	Total number of initiators connected to this target adapter.

connected			
invalid-xmit-words		integer	Number of invalid words transmitted. Range [0..2^31-1]
is-sfp-diagnostics-internally-calibrated		boolean optional	Indicates if the SFP diagnostics are internally calibrated or not. The optional SFP rx/tx fields are invalid (and therefore not provided) if the SFP diagnostics are not internally calibrated.
is-sfp-optical-transceiver-valid		boolean	Validity of the optical transceiver. Until Data ONTAP 8.0.0, this field was incorrectly named "is-spf-optical-transceiver-valid". While that field is also returned for backward compatibility, all new applications must use the current version.
is-sfp-rx-power-in-range		boolean optional	Flag to indicate received optical power is in range.
is-sfp-tx-power-in-range		boolean optional	Flag to indicate transmitted optical power is in range.
link-breaks		integer	Number of times that the link breaks.
lip-resets		integer	Number of times that a selective Reset LIP (Loop Initialization Primitive) occurred. LIP reset is used to preform a vendor-specific reset at the loop port specified by the AL-PA value.
lr-received		integer	Number of LRs (Link Reset) received by the target HBA. Range [0..2^31-1]
lr-sent		integer	Number of LRs (Link Reset) sent from the target HBA. Range [0..2^31-1]
node		node-name	The name of the node where the adapter is installed.
nos-received		integer	Number of NOSs (Not_Operational Primitive Sequence)received by the target HBA. Range [0..2^31-1]
ols-received		integer	Number of OLSs (Offline Primitive Sequence) received by the target HBA. Range [0..2^31-1]
protocol-errors		integer	Number of protocol errors occurred. Range [0..2^31-1]
queue-depth		integer	Counts the queue depth on the target HBA.
scsi-requests-dropped		integer	Number of SCSI requests being dropped.
sfp-connector		string optional	Connector used with the optical transceiver.
sfp-date-code		string optional	Date code for the optical transceiver.
sfp-encoding		string optional	Encoding used with the optical transceiver. Possible values ["8B10B", "?????"]
sfp-fc-speedcapabilities		string optional	FC speed capabilities for the optical transceiver. Possible values [1, 2, 4, 8 in Gbps]
sfp-formfactor		string optional	Form factor of the optical transceiver. Possible values: "SFP" (for Small FormFactor).
sfp-part-number		string optional	Part number for the optical transceiver.
sfp-rev		string optional	Revision for the optical transceiver.
sfp-rx-power		string optional	SFP received optical power, reported to tenth decimal in uWatts.
sfp-serial-number		string optional	Serial number for the optical transceiver.
sfp-tx-power		string optional	SFP transmitted optical power, reported to tenth decimal in uWatts.
		string	

sfp-vendor-name		optional	Vendor name for the optical transceiver.
sfp-vendor-oui		string optional	Vendor OUI (The IEEE Organizationally Unique Identifier) for the optical transceiver.
sfp-wavelength		integer optional	Wavelength for the optical transceiver. Measured in nanometers. Range [830..860]
spurious-interrupts		integer	Count of spurious interrupts.
total-logins		integer	Counts the times of initiators added. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1.
total-logouts		integer	Counts the times of initiators removed. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1.

Element definition: **fcp-adapter-topology-switch-info**

[top]

Information about an FC switch connected to an FC adapter.

Name	Range	Type	Description
adapter		string	The name of the adapter this switch is visible through.
domain		integer	The domain identifier of the FC switch. Range: [1..255]
fcp-adapter-topology-switch-ports		fcp-adapter-topology-switch-port-info[] optional	List of ports for the FC switch. This is only returned if verbose is set to true.
logical-name		string	The logical name of the FC switch. The maximum length is 64.
node-name		string	Node name of the FC switch. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
port-count		integer	The number of ports discovered on the FC switch. Range: [0..2^32-1]
release		string	The release version of the FC switch. The maximum length is 64.
vendor		string	The name of the FC switch vendor. The maximum length is 64.

Element definition: **fcp-adapter-zone-info**

[top]

Information about a zone.

Name	Range	Type	Description
adapter		string	The adapter this zone is visible through.
fcp-adapter-zone-members		fcp-adapter-zone-member-info	List of zone members.

zone-name		string	The name of the zone. The maximum length is 64.
zone-set-name		string	The name of the zone set containing this zone. The maximum length is 64.

Element definition: **fcp-config-adapter-info**

[top]

Configuration information for one FC adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter		string optional	Adapter Attributes: key, non-creatable, non-modifiable
connection-established		fcp-connection optional	Connection Established Attributes: non-creatable, non-modifiable Possible values: • "loop" , • "ptp"
data-link-rate	**[0..2^32-1]**	integer optional	Data Link Rate (Gbit) Attributes: non-creatable, non-modifiable
data-protocols-supported		fcp-adapter-data-protocol[] optional	Data Protocols Supported Attributes: non-creatable, non-modifiable Possible values: • "fcp" , • "fc_nvme"
fabric-established		boolean optional	Fabric Established Attributes: non-creatable, non-modifiable
fabric-name		string optional	Fabric Name Attributes: non-creatable, non-modifiable
firmware-rev		string optional	Firmware Revision Attributes: non-creatable, non-modifiable
hardware-rev		string optional	Hardware Revision Attributes: non-creatable, non-modifiable
info-name		string optional	Description Attributes: non-creatable, non-modifiable
is-sfp-diagnostics-internally-calibrated		boolean optional	Is Internally Calibrated Attributes: non-creatable, non-modifiable
is-sfp-optical-transceiver-valid		boolean optional	Validity Of Transceiver Attributes: non-creatable, non-modifiable
is-sfp-rx-in-los		boolean optional	Is Receiver In LOS Attributes: non-creatable, non-modifiable
is-sfp-rx-power-in-range		boolean optional	Is Received Power In Range Attributes: non-creatable, non-modifiable
is-sfp-tx-in-disable		boolean	Is Xmit Disabled Attributes: non-creatable, non-

		optional	modifiable
is-sfp-tx-in-fault		boolean optional	Is Xmit In Fault Attributes: non-creatable, non-modifiable
is-sfp-tx-power-in-range		boolean optional	Is Xmit Power In Range Attributes: non-creatable, non-modifiable
max-speed		integer optional	Maximum Speed Attributes: non-creatable, non-modifiable
media-type		string optional	Mediatype Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
node-name		string optional	Adapter WWNN Attributes: non-creatable, non-modifiable
physical-protocol		string optional	Physical Protocol Attributes: non-creatable, non-modifiable
port-address	**[0..2^32-1]**	integer optional	Host Port Address Attributes: non-creatable, non-modifiable
port-name		string optional	Adapter WWPN Attributes: non-creatable, non-modifiable
sfp-connector		string optional	Connector Used Attributes: non-creatable, non-modifiable
sfp-date-code		string optional	Date Code Of Transceiver Attributes: non-creatable, non-modifiable
sfp-ddm-capabilities		string optional	Status Monitoring Available Attributes: non-creatable, non-modifiable
sfp-ddm-status-control	**[0..2^32-1]**	integer optional	DDM Status Attributes: non-creatable, non-modifiable
sfp-diagnostic-monitoring-type	**[0..2^32-1]**	integer optional	Diagnostic Monitoring Type Attributes: non-creatable, non-modifiable
sfp-encoding		string optional	Encoding Used Attributes: non-creatable, non-modifiable
sfp-fc-speedcapabilities		string optional	FC Capabilities Of Transceiver Attributes: non-creatable, non-modifiable
sfp-formfactor		string optional	Form Factor Of Transceiver Attributes: non-creatable, non-modifiable
sfp-part-number		string optional	Part Number Of Transceiver Attributes: non-creatable, non-modifiable
sfp-rev		string optional	Revision Of Transceiver Attributes: non-creatable, non-modifiable
sfp-rx-power		string optional	Received Optical Power Attributes: non-creatable, non-modifiable
sfp-serial-number		string optional	Serial Number Of Transceiver Attributes: non-creatable, non-modifiable
sfp-sff8472-compliance	**[0..2^32-1]**	integer optional	SFF-8472 Compliance Attributes: non-creatable, non-modifiable
sfp-tx-power		string optional	SFP Transmitted Optical Power Attributes: non-creatable, non-modifiable
sfp-vendor-name		string optional	Vendor Name Of Transceiver Attributes: non-creatable, non-modifiable
sfp-vendor-oui		string optional	Vendor OUI Of Transceiver Attributes: non-creatable, non-modifiable
sfp-wavelength	**[0..65535]**	integer optional	Wavelength In Nanometers Attributes: non-creatable, non-modifiable
		string	Link speed Attributes: non-creatable, non-

speed		optional	modifiable
state		string optional	Operational Status Attributes: non-creatable, non-modifiable
status-admin		fcp-adapter-state optional	Administrative Status Attributes: non-creatable, modifiable Possible values: • "down" , • "up"
status-extended		string optional	Extended Status Attributes: non-creatable, non-modifiable
switch-port		string optional	Switch Port Attributes: non-creatable, non-modifiable

Element definition: **fcp-interface-info**

[top]

Information about a single FCP Logical Interface (LIF). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-node		string optional	Node currently hosting the LIF. Attributes: non-creatable, non-modifiable
current-port		string optional	FC Adapter currently hosting the LIF. Attributes: non-creatable, non-modifiable
interface-name		string optional	Name of the LIF. Attributes: key, non-creatable, non-modifiable
node-name		string optional	World Wide Node Name (WWNN) of the LIF. All LIFs in a Vserver have the same WWNN as the Vserver's FCP service. Attributes: non-creatable, non-modifiable
port-address		string optional	Host port address of LIF. Attributes: non-creatable, non-modifiable
port-name		string optional	World Wide Port Name (WWPN) of the LIF. Attributes: non-creatable, non-modifiable
relative-port-id		integer optional	The SCSI Relative Target Port Identifier of the LIF. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver hosting the LIF. Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-nameserver-info**

[top]

FCP name server entry for the adapter When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
fabric-port-wwn		string optional	Fabric world wide port name (WWPN) of the lif Attributes: non-creatable, non-modifiable
fc4-type		string optional	Registered FC4 Type Attributes: non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
node-wwn		string optional	World Wide Node Name (WWNN) of the lif Attributes: non-creatable, non-modifiable
port-id	**[0..2^32-1]**	integer optional	Assigned port identifier of the lif Attributes: key, non-creatable, non-modifiable
port-type		string optional	Port type of the lif Attributes: non-creatable, non-modifiable
port-wwn		string optional	World Wide Port Name (WWPN) of the lif Attributes: non-creatable, non-modifiable
service-class		string optional	Registered class of services as defined in the FC-FS standard Attributes: non-creatable, non-modifiable
switch-port		string optional	Name of switch port connected to target array Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver hosting the FCP LIF Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-ping-igroup-status-info**

[top]

FCP Ping result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ext-status		string optional	Extended Status Attributes: non-creatable, non-modifiable
igroup		string optional	Igroup Name Attributes: key, non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable

node		string optional	Node Attributes: non-creatable, non-modifiable
portset		string optional	Portset Attributes: non-creatable, non-modifiable
status		string optional	Ping Status Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable
wwpn		string optional	FCP initiator WWPN Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-ping-status-info**

[top]

Connectivity check between FCP initiator and FCP LIF When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ext-status		string optional	Extended Status Attributes: non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
node		string optional	Node Attributes: non-creatable, non-modifiable
status		string optional	Ping Status Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable
wwpn		string optional	Remote WWPN Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-port-name-info**

[top]

Information for one valid local port name.

Name	Range	Type	Description
fcp-adapter		string optional	Only if this WWPN is being used by a Fibre Channel interface, the name of the interface is returned. In Data ONTAP 7-Mode, the name of a local adapter. In Data ONTAP Cluster-Mode, the name of an FCP data LIF.
is-used		boolean	This indicates whether this WWPN is being used by a Fibre Channel target interface.
port-			A Fibre Channel WWPN in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a

name		string	hexadecimal digit.
vserver		string	Vserver containing this port name

Element definition: **fcp-service-info**

[top]

FCP target service configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-available		boolean optional	true if the FCP Service is running, false otherwise. Attributes: non-creatable, non-modifiable
node-name		string optional	The world-wide node name (WWNN) of the FCP target in the Vserver. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver hosting the FCP service. Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-tdz-info**

[top]

FCP tdz entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
peer-zone-name		string optional	Peer Zone Name Attributes: key, non-creatable, non-modifiable
principal-wwn		string optional	Principal Member WWN Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable
zone-wwpns		string optional	Zone Members Attributes: non-creatable, non-modifiable

Element definition: **fcp-topology-info**

[top]

FCP topology interconnect When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
domain-id	**[0..2^32-1]**	integer optional	Domain Identifier Attributes: key, non-creatable, non-modifiable
lif		string optional	LIF Name Attributes: key, non-creatable, non-modifiable
logical-name		string optional	Logical Name Attributes: non-creatable, non-modifiable
port-count	**[0..2^32-1]**	integer optional	Port Count Attributes: non-creatable, non-modifiable
release		string optional	Release Attributes: non-creatable, non-modifiable
vendor		string optional	Vendor Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable
wwn		string optional	World Wide Name Attributes: non-creatable, non-modifiable

Element definition: **fcp-topology-port-info**

[top]

FCP topology interconnect elements for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter		string optional	Adapter name Attributes: key, non-creatable, non-modifiable
domain-id	**[0..2^32-1]**	integer optional	Domain Id Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

port-attached-id		string optional	Attached Port Id Attributes: non-creatable, non-modifiable
port-attached-visible		string optional	Visible Attributes: non-creatable, non-modifiable
port-attached-wwpn		string optional	Attached Port WWPN Attributes: non-creatable, non-modifiable
port-count	**[0..2^32-1]**	integer optional	Port Count Attributes: non-creatable, non-modifiable
port-slot		string optional	Port Slot Attributes: non-creatable, non-modifiable
port-state		fcpportstate optional	Port State Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline" , • "testing" , • "fault"
port-type		fcporttype optional	Port Type Attributes: non-creatable, non-modifiable Possible values: • "none" , • "n_port" , • "nl_port" , • "fnl_port" , • "nx_port" , • "f_port" , • "fl_port" , • "e_port" , • "b_port" , • "tnp_port" , • "tf_port" , • "nv_port" , • "fv_port" , • "sd_port" , • "te_port" , • "tl_port"
port-wwpn		string optional	Port WWPN Attributes: key, non-creatable, non-modifiable
switch-name		string optional	Switch Name Attributes: non-creatable, non-modifiable
switch-release		string optional	Switch Release Attributes: non-creatable, non-modifiable
switch-vendor		string optional	Switch Vendor Attributes: non-creatable, non-modifiable
switch-wwn		string optional	Switch WWN Attributes: non-creatable, non-modifiable

Element definition: **fcp-zone-info**

[top]

FCP active zone set entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter		string optional	Adapter name Attributes: key, non-creatable, non-modifiable
contents		string optional	Member Contents Attributes: non-creatable, non-modifiable
domain-id	**[0..2^32-1]**	integer optional	Member Domain Id Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
port	**[0..2^32-1]**	integer optional	Member Port Attributes: non-creatable, non-modifiable
port-id	**[0..2^32-1]**	integer optional	Member Port Id Attributes: non-creatable, non-modifiable
type	**[0..2^32-1]**	integer optional	Member Type Attributes: non-creatable, non-modifiable
type-name		string optional	Member Type Name Attributes: non-creatable, non-modifiable
unique	**[0..2^32-1]**	integer optional	(DEPRECATED)-This field is deprecated as of ONTAP 9.11, but remains in the API for backward compatibility. It is an incrementing number which is not tied to the zone and whose value can vary with each call. The caller is warned to not rely on this value to identify a zone. Attributes: key, non-creatable, non-modifiable
wwn		string optional	Member WWN Attributes: non-creatable, non-modifiable
zone-count	**[0..2^32-1]**	integer optional	Zone Count Attributes: non-creatable, non-modifiable
zone-member-count	**[0..2^32-1]**	integer optional	Zone Member Count Attributes: non-creatable, non-modifiable
zone-name		string optional	Zone Name Attributes: key, non-creatable, non-modifiable
zoneset-name		string optional	Zoneset Name Attributes: key, non-creatable, non-modifiable

Element definition: **fcp-adapter-data-protocol**

[top]

fcp|fc-nvme Possible values:

- "fcp" ,
- "fc_nvme"

[none]

Element definition: **fcp-adapter-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

Element definition: **fcp-adapter-topology-switch-port-info**

[top]

Information about the FC switch port.

Name	Range	Type	Description
fcp-adapter-topology-attached-ports		fcp-adapter-topology-attached-port-info[]	List of devices attached to this port.
port-name		string	World wide port name (WWPN) of the port. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
port-number		integer	Port index number. Range: [0..2^32-1]
port-state		string	Port state. Possible values: "online", "offline", "testing", "fault", and "unknown".
port-type		string	Port type. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none".

Element definition: **fcp-adapter-zone-member-info**

[top]

Information about a zone member.

Name	Range	Type	Description
domain-id		integer optional	Domain identifier of the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1]
fabric-port-name		string optional	World wide port name (WWPN) of the fabric port. This element is returned if the zone-member-type is "fabric-port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
node-name		string optional	World wide node name (WWNN) of the N-port. This element is returned if the zone-member-type is "node-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
port		integer optional	Port number on the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1]
port-id		integer optional	Assigned port identifier. This element is returned if the zone-member-type is "port-id". Range: [0..2^24-1]

port-name		string optional	World wide port name (WWPN) of the N-port. This element is returned if the zone-member-type is "port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.
zone-member-type		string	The type of zone member. Possible values are: "port-name", "domain-id-port", "port-id", "node-name", "fabric-port-name", and "unknown".
zone-member-value		integer optional	Uninterpreted value. This element is returned if the zone-member-type is "unknown". Range: [0..2^32-1]

Element definition: **fcp-connected-initiator-info**

[top]

Information about an initiator connected to an FC adapter.

Name	Range	Type	Description
initiator-group-list		initiator-group-list-info[] optional	List of initiator groups this initiator belongs to.
node-name		string	World Wide Node Name (WWNN) of initiator.
port-address	**[0..2^32-1]**	integer	Fibre Channel host address it is connected to.
port-name		string	World Wide Port Name (WWPN) of the initiator.
portname-alias-list		portname-alias-name[] optional	List of aliases for the WWPN.

Element definition: **fcp-connection**

[top]

loop|ptp Possible values:

- "loop" ,
- "ptp"

[none]

Element definition: **fcpportstate**

[top]

Unknown|Online|Offline|Testing|Fault Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "testing" ,
- "fault"

[none]

Element definition: **fcpporttype** [top]

None|N-Port|NL-Port|FNL-Port|NX-Port|F-Port|FL-Port|E-Port|B-Port|TNP-Port|TF-Port|NV-Port|FV-Port|SD-Port|TE-Port|TL-Port Possible values:

- "none" ,
- "n_port" ,
- "nl_port" ,
- "fnl_port" ,
- "nx_port" ,
- "f_port" ,
- "fl_port" ,
- "e_port" ,
- "b_port" ,
- "tnp_port" ,
- "tf_port" ,
- "nv_port" ,
- "fv_port" ,
- "sd_port" ,
- "te_port" ,
- "tl_port"

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **fcp-adapter-topology-attached-port-info** [top]

Information about the attached device.

Name	Range	Type	Description
is-		boolean	Visibility of this device through this adapter from a zoning perspective.

visible			
port-id		integer	Assigned port identifier of the attached device. A value of 0 indicates no value has been assigned. Range: [0..2^24-1]
port-name		string	World wide port name (WWPN) of the attached device. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit.

Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

Name	Range	Type	Description
initiator-group-name		string	Name of initiator group.

Element definition: **portname-alias-name**

[top]

Aliases for this WWPN

Name	Range	Type	Description
portname-alias		string	Alias for the WWPN

APIs in Category: **fcport**

fcport-get-link-state
fcport-reset-dev
fcport-send-lip
fcport-set-offline
fcport-set-online

fcport-get-link-state

[top]

Get the link state of a specific adapter on this system.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Output Name	Range	Type	Description
adapter-link-state		link-state-info[]	adapter link state info
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EINTERNALERROR	

fcport-reset-dev

[top]

When invoked the device will be reset. The device will be temporarily suspended while it is reset, after which it will resume processing device operations. This command should be used with care as it can have adverse effects, for instance pending commands to the device will be aborted when issuing this command.

Input Name	Range	Type	Description
device-id		string	The device id is presented as a slot number followed by the port letter concatenated with the device-id. These two parts are separated by a period. For example 6b.5 If the device-id is omitted EAPIMISSINGARGUMENT will

			be returned. If the device-id is invalid EINVALIDINPUTERROR will be returned.

Errno	Description
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

fcport-send-lip

[top]

This will initiate a loop initialization on the specified fibrechannel loop port. The loop will be temporarily suspended while it is initialized, after which it will resume processing loop operations. This command should be used with care, because it can have adverse effects, like pending commands will be aborted when issuing this command.

Input Name	Range	Type	Description
loop-id		string	The loop id is presented as a slot number and port letter concatenated (for example 6a). If the loop-id is omitted EAPIMISSINGARGUMENT will be returned. If the loop-id is invalid EINVALIDINPUTERROR will be returned.

Errno	Description
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
ELOOPUNAVAILABLE	

fcport-set-offline

[top]

Offline a specific adapter on this system. This API should be used with care, as it can have adverse side effects, which you lose access to all devices of that port. The operation of offlining the already offlined adapter will be considered success.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EINTERNALERROR	

fcport-set-online

[top]

Online a specific adapter on this system. The operation of onlining the already onlined adapter will be considered success.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EINTERNALERROR	

Element definition: **link-state-info**

[top]

list link-state info of a specific adapter channel

Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name.
fc-port-info		fc-ports optional	fiber channel port information. Present only when link-state field value is "up".
link-state		string	Possible values: "initing", "down", "up", "offline-physical", "offline-logical", or "zombified", which the adapter has stopped sending I/O and is ignoring link events. This state may occur when shelf firmware is being updated.
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.

Element definition: **fc-ports**

[top]

Information about the ports belonging to the fiber channel adapter

Name	Range	Type	Description
port-number		string optional	This represents the physical port number of the FC port. Field is not present when port-type is "l-port"
port-type		string	Type of port. Possible values: "l-port", loop port, node port used to connect a node to a Fibre Channel loop. "nl-port", network+loop port, node port which connects to both loops and switches. "n-port", network port, node port used to connect a node to a Fibre Channel switch.
switch-name		string optional	This is the switch name, if any, connected to the FC port. Field is not present when port-type is "l-port"
switch-wwn		string optional	This is the world wide name of the switch, if any, connected to the FC port. Field is not present when port-type is "l-port"

APIs in Category: **feature**

feature-status-list-info
feature-usage-get-iter
feature-usage-summary-get-iter

This set of APIs allow management of 7-Mode and Cluster-Mode features for Data ONTAP 8.2 and later. The feature status are set internally based on the enablement, entitlement, and other configuration restrictions of the feature.

feature-status-list-info

[top]

Returns status information for managed features.

Output Name	Range	Type	Description
managed-feature-status-list		managed-feature-status-info[]	An array, one entry per each managed feature.

Errno	Description
EINTERNALERROR	

feature-usage-get-iter

[top]

Returns feature usage information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

Input Name	Range	Type	Description
desired-attributes		usage-state-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		usage-state-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		usage-state-info[] optional	The list of attributes of feature objects.
next-tag		string optional	Tag for the next call. Not present when there are no more feature objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

feature-usage-summary-get-iter

[top]

Returns feature usage summary information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

Input Name	Range	Type	Description
desired-attributes		usage-summary-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		usage-summary-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		usage-summary-info[] optional	The list of attributes of feature objects.
next-tag		string optional	Tag for the next call. Not present when there are no more feature objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **managed-feature-status-info**

[top]

Status information about a managed feature. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
feature-name		managed-feature optional	Managed feature name. Attributes: key, non-creatable, non-modifiable
notes		string optional	Additional information about the managed feature status. Attributes: non-creatable, non-modifiable
status		managed-feature-status optional	Status of a managed feature. Attributes: non-creatable, non-modifiable

Element definition: **usage-state-info**

[top]

Information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
date-collected		datetime optional	The time data was collected. Attributes: non-creatable, non-modifiable
feature-message		string optional	Additional feature reported message. Attributes: non-creatable, non-modifiable
feature-name		managed-feature optional	Name of the feature. Attributes: key, non-creatable, non-modifiable Possible values: • "cifs" , • "nfs" , • "iscsi" , • "fcp" , • "dedupe" , • "flexclone" , • "compression" , • "snaprestore" , • "snaplock" , • "snaplock_enterprise" , • "snapvault_primary" , • "snapvault_secondary" , • "snapmirror" , • "syncmirror" , • "flexcache" , • "ndmp" , • "multistore" , • "cdmi" , • "snapdrive_windows" , • "snapmanager_exchange" , • "snapmanager_sql" , • "snapmanager_sharepoint" ,

			• "snapmanager_hyperv" , • "snapdrive_unix" , • "snapmanager_oracle" , • "snapmanager_sap" , • "v_storageattach" , • "mt_ek_mgmt" , • "s3"
node		node-name optional	Name of the controller node. Attributes: key, non-creatable, non-modifiable
owner		string optional	Name of the controller node. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial number of the controller node. Attributes: key, non-creatable, non-modifiable
usage-status		feature-usage-state optional	The usage status information. Attributes: non-creatable, non-modifiable Possible values: • "not_used" - Not Used, • "configured" - Configured, • "in_use" - In Use, • "not_available" - Not Available
week-number		seqnum optional	The week of data collection. Week number one is the oldest week of collection. Attributes: key, non-creatable, non-modifiable

Element definition: **usage-summary-info**

[top]

Summary information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			Name of the feature. Attributes: key, non-creatable, non-modifiable Possible values: • "cifs" , • "nfs" , • "iscsi" , • "fcp" , • "dedupe" , • "flexclone" , • "compression" , • "snaprestore" , • "snaplock" , • "snaplock_enterprise" , • "snapvault_primary" , • "snapvault_secondary" ,

feature-name		managed-feature optional	• "snapmirror" , • "syncmirror" , • "flexcache" , • "ndmp" , • "multistore" , • "cdmi" , • "snapdrive_windows" , • "snapmanager_exchange" , • "snapmanager_sql" , • "snapmanager_sharepoint" , • "snapmanager_hyperv" , • "snapdrive_unix" , • "snapmanager_oracle" , • "snapmanager_sap" , • "v_storageattach" , • "mt_ek_mgmt" , • "s3"
last-used-time		datetime optional	The time when the feature was last recorded to be in-use. Attributes: non-creatable, non-modifiable
owner		string optional	Name of the controller node. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial number of the controller node. Attributes: key, non-creatable, non-modifiable
weeks-configured	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to be configured. Attributes: non-creatable, non-modifiable
weeks-in-use	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to be in-use. Attributes: non-creatable, non-modifiable
weeks-not-available	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to not have usage data available. Attributes: non-creatable, non-modifiable
weeks-not-used	**[0..2147483647]**	integer optional	Number of weeks the feature was recorded to be not used. Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **feature-usage-state**

[top]

not-used|configured|in-use|not-available Possible values:

- "not_used" - Not Used,
- "configured" - Configured,
- "in_use" - In Use,
- "not_available" - Not Available

[none]

Element definition: **managed-feature**

[top]

Managed Feature Possible values:

- "cifs" ,
- "nfs" ,
- "iscsi" ,
- "fcp" ,
- "dedupe" ,
- "flexclone" ,
- "compression" ,
- "snaprestore" ,
- "snaplock" ,
- "snaplock_enterprise" ,
- "snapvault_primary" ,
- "snapvault_secondary" ,
- "snapmirror" ,
- "syncmirror" ,
- "flexcache" ,
- "ndmp" ,
- "multistore" ,
- "cdmi" ,
- "snapdrive_windows" ,
- "snapmanager_exchange" ,
- "snapmanager_sql" ,
- "snapmanager_sharepoint" ,
- "snapmanager_hyperv" ,
- "snapdrive_unix" ,
- "snapmanager_oracle" ,
- "snapmanager_sap" ,
- "v_storageattach" ,
- "mt_ek_mgmt" ,
- "s3"

[none]

Element definition: **managed-feature-status**

[top]

Represents the status of a managed feature. Possible values:

- "on" - feature is entitled and turned on,
- "available" - feature is entitled and available to be turned on. Its current on/off status is unknown,
- "on_not_configurable" - feature is no longer entitled but it was turned on before and remains to be on. Feature is not configurable at the moment,
- "off" - feature is entitled but turned off,
- "not_available" - feature is not entitled, licensing infrastructure is unavailable, or other configuration check prevents feature use. The field notes can provide additional information.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

APIs in Category: **file**

file-assign-qos
file-compact-data
file-create-directory
file-create-symlink
file-delete-directory
file-delete-file
file-fingerprint-abort
file-fingerprint-dump
file-fingerprint-get-iter
file-fingerprint-start
file-get-file-info
file-get-space-reservation-info
file-hole-range-query-iter
file-inode-info
file-inode-info-get-iter
file-list-directory-iter
file-list-directory-iter-end
file-list-directory-iter-next
file-list-directory-iter-start
file-punch-hole-iter
file-read-file
file-read-symlink
file-rename-file
file-set-space-reservation-info
file-truncate-file
file-usage-get
file-usage-result-get
file-usage-start
file-write-file

The path and filename values used in these APIs are "NFS" filenames by default. If a file is created with a name that is illegal in CIFS, CIFS access to the file will need to use the file's 8.3 name. Similarly, if two filenames created by these APIs differ only by case (e.g. "a" and "A"), CIFS access will see the 8.3 name for the second one created.

To access files or directories with Unicode file names, the UTF-8 equivalent of the Unicode path can be used. If a file contains Unicode-format data, the filer returns all the data in the file including the identifier in the first two bytes of the file which indicates the file contains Unicode data (0xFEFF).

A file may optionally contain multiple distinct streams of data. A stream is an on disk structure containing a sequence of bytes, analogous to a file. A stream associated with a file is identified by a name, and data may be read or written to a file or stream. A stream can be thought of as a hidden file associated with a base file, and is visible in the name space of the base file. Streams are typically used to store metadata associated with the base file

file-assign-qos

[top]

Manage the association of QoS policy group to a specified file. QoS Policy groups define measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated. In Data ONTAP 8.2 hierarchical QoS is not supported i.e. QoS policy groups cannot be assigned to multiple objects in the file's storage hierarchy - such as the parent LUN, volume or Vserver.

Input Name	Range	Type	Description
			The caching policy that is associated with this file. This policy is used to make caching decisions for this file. If a caching policy is not assigned to this file, the system uses the caching policy that is assigned to the containing volume. If a caching policy is not assigned to the containing volume, the system uses the caching policy that is assigned to the containing Vserver. If a caching policy is not assigned to the containing

caching-policy		string optional	Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
file		string	Complete file path of the file without a trailing slash.
qos-adaptive-policy-group-name		string optional	The QoS adaptive policy group name that is to be associated with this file in order to enforce service level objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS adaptive policy group.
qos-policy-group-name		string optional	The QoS Policy Group name that is to be associated with this file in order to enforce Service Level Objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS policy group.
volume		volume-name	Name of the Volume in which the file resides.
vserver		vserver-name	Name of the Vserver in which the volume that hosts the file resides.

Errno	Description
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_FILE_IS_LUN	
E_QOS_FILE_ACCESS_ERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

file-compact-data

[top]

compact data

Input Name	Range	Type	Description
file		string	File Path
node		filer-id	Node

snapshot		snapshot-id	Snapshot Copy Name
volume		volume-name	Volume Name
vserver		vserver-name	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-create-directory

[top]

Create a directory.

Input Name	Range	Type	Description
path		string	Path of the directory to be created. The value is expected to begin with /vol/.
perm		string	Permission of the directory to be created. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. Note: Prior to Data ONTAP 7.3.1 this value was treated as a base-10 number.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_EEXIST	
EONTAPI_ENOENT	
EONTAPI_ENOSPC	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVER_OP_NOT_ALLOWED	

file-create-symlink

[top]

Create a symlink.

Input Name	Range	Type	Description
path		string	Path of the symlink file to create. The value is expected to begin with /vol/.
symlink		string	Value of the symlink, which is the destination path contained in the symlink. This ZAPI does not check whether the destination path is accessible. This parameter may contain any arbitrary absolute or relative path.

Errno	Description
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	
EONTAPI_EEXIST	
EONTAPI_ENOENT	
EONTAPI_ENAMETOOLONG	
EONTAPI_EPERM	
EONTAPI_ELOOP	
EONTAPI_ENOSPC	
EONTAPI_ENOTDIR	

file-delete-directory

[top]

Delete a directory.

Input Name	Range	Type	Description
path		string	Path of the directory to delete. The value is expected to begin with /vol/. The directory must be empty in order for this API to succeed.

Errno	Description
EONTAPI_ENOENT	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	

file-delete-file

[top]

Delete a file.

Input Name	Range	Type	Description
path		string	path of the file or symlink to delete. the value is expected to begin with /vol/.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	

EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	

file-fingerprint-abort

[top]

The file-fingerprint-abort API can be used to abort an ongoing fingerprint operation. This api only aborts the fingerprint operations that have been started and have not finished. You identify the session-id with this API, and it aborts the fingerprint operation that is associated with that particular session-id. You must specify session-id when using file-fingerprint-abort.

Input Name	Range	Type	Description
session-id	**[0..2^32-1]**	integer	session-id of the fingerprint operation that needs to be stopped.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-fingerprint-dump

[top]

The file-fingerprint-dump API returns the fingerprint information for a file. The session-id must be specified when using the file-fingerprint-dump API.This is the session-id of the fingerprint operation that is returned when a fingerprint operation is started using the file-fingerprint-start API. If the fingerprint operation is complete, it will also show the complete fingerprint information for the file.

Input Name	Range	Type	Description
desired-attributes		fingerprint-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
session-id	**[0..2^32-1]**	integer	An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed.

Output Name	Range	Type	Description
attributes		fingerprint-info	The attributes of the file.

Errno	Description

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-fingerprint-get-iter

[top]

The file-fingerprint-get-iter API returns information for one or several fingerprint operations. We need to specify either session-id or vserver-name and volume-name with the file-fingerprint-get-iter API. When queried with session-id, the file-fingerprint-get-iter API returns the progress of the fingerprint operation with the specified session-id. When queried with vserver-name and volume-name, the file-fingerprint-get-iter API returns the progress of all the fingerprint operations running on that particular volume.

Input Name	Range	Type	Description
desired-attributes		fingerprint-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fingerprint-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fingerprint-status-info[] optional	The list of attributes of file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-fingerprint-start

[top]

The file-fingerprint-start API is used to start the fingerprint computation a file. The fingerprint computation is started on the file, and a session-id is returned. This session-id is an unique identifier for the fingerprint operation. To start the fingerprint computation on a file, the following parameters should be compulsarily specified:

- vserver : Name of the vserver which owns the volume.
- file : Complete file path of the file on which the fingerprint needs to be computed. This file path is of the form vol//

Input Name	Range	Type	Description
algorithm		string optional	The digest algorithm which will be used for the fingerprint computation. Fingerprint can be computed using one of the following digest algorithms : • md5 • sha-256 If no algorithm is specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm.
file		string	Full path of the file on which fingerprint needs to be calculated. The value begins with /vol/.
scope		string optional	The file scope which will be used for the fingerprint computation. FIngerprint can be computed over one of the following : • data • metadata • both data and metadata If no scope is specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata.

Output Name	Range	Type	Description
result-session-id		integer optional	An unique identifier for the fingerprint operation. The result-session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

file-get-file-info

[top]

Obtains the file information or properties.

Input Name	Range	Type	Description
path		string	Pathname of the directory to list. The value is expected to begin with /vol/.

Output Name	Range	Type	Description
file-info		file-info	File information from the stat() function.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EINTERNALERROR	
EVOL_NOT_MOUNTED	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled
Yes

file-get-space-reservation-info

[top]

Queries the space reservation settings for the named file.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
path		string	File to be queried.
volume-id		string	The identifier of the volume in which the named file exists. There are two legal choices for a volume identifier, either a DSID or a UUID. DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'. Here is an example of an actual DSID: 0x0000000000000401 UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529

Output Name	Range	Type	Description
is-fill-enabled		boolean	Whether or not the file is set with fill.
is-overwrite-enabled		boolean	Whether or not the file is set with overwrite.

Errno	Description
EOPNOTSUPPORTED	
EFILENOTFOUND	
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

file-hole-range-query-iter

[top]

Return ranges of holes in a file

Input Name	Range	Type	Description
length		integer	The number of bytes to scan. If this is zero scan until end of file. If the length is not an integral multiple of the block size it will be rounded up to the end of the block. Range : [0..2^63-1]
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 64
offset		integer	The starting offset of the file from where the scan for holes should begin. If the offset is not an integral multiple of the block size it will be rounded down to the start of the block. Range : [0..2^63-1]
path		string	The full path of the file for which hole information is to be queried. Format must be of the following: /vol/my_vol/my_file
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		hole-range-info[] optional	The list of attributes of file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EONTAPI_ESTALE	
EONTAPI_ERANGE	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
EVSERVER_OP_NOT_ALLOWED	

[top]

file-inode-info

Get parent information for a given inode.

This API corresponds to the "inodepath" diagnostic-level CLI in ONTAP-Classic, and has the same defaults.

The input is:

- Required, a volume identifier. A volume may be specified by name, fsid, or (in some ONTAP products) UUID/DSID.
- Required, an inode number.
- Optional, a snapshot identifier to get information from a snapshot rather than the active volume. A snapshot may be specified by name or by id.
- Optional, various reporting flags (see below) to enable or disable optional output information.

The output is:

- All volume identifiers, the one used as input plus the values of the others.
- Optionally, all snapshot identifiers; the one used as input plus the value of the other.
- The number of parents for the inode.
- Optionally, one or more volume relative pathnames to the inode
- Optionally, one or more leaf names for the inode.
- Optionally, one or more of the actual parent info stored for the inode, in the form of the parent dir inode number and the parent directory cookie (fbn and offset into the fbn) used to find the dir entry that refers to the inode in the parent directory (ie. the info used to get the leaf name).

This API is only supported for flexible volumes and FlexGroup constituents.

Input Name	Range	Type	Description
encoded		boolean optional	Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false.
generation		integer optional	The generation number for this inode. Range: [1..2^32-1]
inode-number		integer	The inode number for which information is desired.
logical-snap-id		integer optional	All snapshots are associated with an internal index. "logical-snap-id" is the client-visible index that maps the the underlying internal index. Range: [1..255].
report-cifs-paths		boolean optional	Flag for indicating if the paths returned should be cifs-paths
report-leaf-name		boolean optional	If set to true, report the leaf name of the given inode. The leaf name is equivalent to the final component of a full pathname. For example, the leaf name of: /vol/vol0/foo/bar/baz is: baz By default, the inode's leaf name is not shown.
report-no-pathname		boolean optional	If set to true, do not report on the given inode's full pathname. By default, the inode's full pathname is reported.

report-other-parents		boolean optional	If set to true, report the requested information for all of the parents for the given inode. By default, only information about one of the given inode's parents is reported.
report-parent-data		boolean optional	If set to true, report various other pieces of information about the given inode. This information includes the inode of the parent directory containing the given inode, along with the directory cookie by which the given inode is known in that parent directory inode. By default, this other information is not reported for the given inode.
snap-id		integer optional	The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume. Valid snapshot ids have a range of 0 to (WAFL_SNAP_CNT - 1) (currently 255). A value of 0 will refer to the active file system of the given volume. This refers to the physical snapshot identifier.
snap-name		string optional	A snapshot name within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume.
volume-dsid		string optional	The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified. DSIDs are formatted as 18-character strings composed of 16 hex characters prefixed with '0x'. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG).
volume-fsid		integer optional	The FSID (file system identifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified. An FSID may have any uint32_t value.
volume-name		string optional	The name of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified.
volume-uuid		string optional	The UUID (Universally Unique IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. An example UUID is 532ad684-c8ec-11d9-945f-00065b8c8a1e. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG).

Output Name	Range	Type	Description
inode-number		integer	The number identifying the inode.
inode-paths		inode-parent-info[]	List of requested paths and parent information for the given inode.
logical-snap-id		integer optional	Logical snapshot index. This index maps to the above internal index. Logical index allows users to choose the same snapshot index across all members of a striped volume. This index is also useful for logical volume replication. A logical snapshot index of 0 implies that the

			snapshot is is not client-visible i.e. this is a un-coordinated snapshot. Range: [0..255].
number-of-parents		integer	The number of parents for the inode. For a file, this is the number of links to the file.
snapshot-id		integer optional	The snapshot id, if requested info is from a snapshot. This is the physical snapshot identifier.
snapshot-name		string optional	The name of the snapshot, if requested info is from a snapshot.
volume-dsid		string optional	The volume DSID.
volume-fsid		integer	The volume FSID.
volume-name		string	The volume name.
volume-uuid		string	The volume UUID.

Errno	Description
EINVALIDINPUTERROR	
EINODENUMBERTOOSMALL	
EINODENUMBERTOOLARGE	
EVOLUMEDOESNOTEXIST	
ESNAPSHOTDOESNOTEXIST	
EINVALIDINODE	
EINELIGIBLEINODE	
EPARENTINFONOTLOADED	
EI2PNOTENABLED	
EINTERNALERROR	
EVOLUMEOFFLINE	
EWRONGSTRIPE	
EVOLUMEQUIESCED	
EVOLUMEBUSY	

Vfiler-enabled
Yes

file-inode-info-get-iter

[top]

Get information about all the files associated with an inode in a volume.

Input Name	Range	Type	Description
desired-attributes		inode-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		inode-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		inode-info[] optional	The list of attributes of file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINODENUMBERTOOSMALL	
EINODENUMBERTOOLARGE	
EVOLUMEDOESNOTEXIST	
ESNAPSHOTDOESNOTEXIST	
EINVALIDINODE	
EPARENTINFONOTLOADED	
EI2PNOTENABLED	
EVOLUMEOFFLINE	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
ESNAPSHOTINVALIDID	
ESNAPSHOTDOESNOTEXIST	
EAPIMISSINGARGUMENT	
EINVALIDDSID	
EVOLUMENAMEINVALID	

file-list-directory-iter

[top]

list of files in a given directory.

Input Name	Range	Type	Description
desired-attributes		file-info[] optional	Specify which attributes to return. If not set return all of them.
max-records	**[1..2^32-1]**	integer optional	Maximum number of directory entries to retrieve.
path		string	Pathname of the directory to list. The value is expected to begin with /vol/.
query		file-info[] optional	A query that specifies which objects to return. The query can specify any attributes in the file object. All file objects matching this query up to 'max-records' will be returned.
tag		string optional	Should be empty for first call. For subsequent calls should be the value returned by next-tag below.

Output Name	Range	Type	Description
attributes-list		file-info[] optional	Array with information for each file in the named directory.
next-tag		string optional	Tag to be used in the next call to continue iteration. Will not be returned if there are no more entries.
num-records	**[0..2^32-1]**	integer	This tells you how many records are being returned from this particular call to file-list-directory-iter-next. When this value is 0, you have retrieved everything.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
E_DIRECTORY_CHANGED	
EINTERNALERROR	
EVOL_NOT_MOUNTED	
EVSERVER_OP_NOT_ALLOWED	

file-list-directory-iter-end

[top]

Terminate a directory iteration.

Input Name	Range	Type	Description
tag		string	Tag from a previous file-list-directory-iter-start.

Errno	Description
EONTAPI_ENOENT	

Vfiler-enabled
Yes

file-list-directory-iter-next

[top]

Obtain a list of files in a given directory.

Input Name	Range	Type	Description
maximum		integer	Maximum number of directory entries to retrieve.
tag		string	Tag from a previous file-list-directory-iter-start.

Output Name	Range	Type	Description
files		file-info[]	Array with information for each file in the named directory.
			This tells you how many records are being returned from this particular

records		integer	call to file-list-directory-iter-next. When this value is 0, you have retrieved everything.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	

Vfiler-enabled
Yes

file-list-directory-iter-start

[top]

Start in iteration through the list of files in a given directory.

Input Name	Range	Type	Description
encoded		boolean optional	Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false.
path		string	Pathname of the directory to list. The value is expected to begin with /vol/.

Output Name	Range	Type	Description
records		integer	Number of items that have been saved for future retrieval with file-list-directory-iter-next.
tag		string	Tag to be used in subsequent iterations.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EAPIERROR	
EONTAPI_EINVAL	

Vfiler-enabled
Yes

file-punch-hole-iter

[top]

Punch hole in the file. Hole punching involves reclaiming of blocks in a file by unallocating them and then direct or indirect blocks can be made to point to 0.

Input Name	Range	Type	Description
attributes-list		hole-range-info[]	This is the array containing the ranges that need to be hole punched.
path		string	Path of the file. Format must be of the following: /vol/my_vol/path-to-file
tag		string optional	Do not set on first iteration. Use value of next-tag on subsequent iterations.

Output Name	Range	Type	Description
next-tag		string optional	Returned if not all ranges have been punched

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EACCES	
EONTAPI_ESTALE	
EONTAPI_EPERM	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOL_NOT_MOUNTED	
EONTAPI_ENOSPC	

file-read-file

[top]

Read data from a named file. API will fail if length exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

Input Name	Range	Type	Description
length	**[0..1048576]**	integer	Number of bytes to read from the file.
offset	**[0..2^63-1]**	integer	Offset into file to start reading from. If the value of offset is beyond the eof, the API will fail with EAPIERROR.
path		string	Name of the file to read. For example: "/vol/<volume>/<file>".
stream-name		string optional	A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be read from the named stream associated with file specified by <path> Default is empty stream name, in which case the data is read from file specified by <path> This field is available in Data ONTAP 8.2 or later.

Output Name	Range	Type	Description
data		string	Data read from the file. The format of the data is ASCII hex characters, two characters representing one byte from the file. (This format allows the representation of 0-valued bytes.)
length	**[0..1048576]**	integer	Number of bytes actually read from the file. If this value is 0, then you have attempted to read at or past the end of the file.

Errno	Description
EONTAPI_EACCES	
EONTAPI_ENOENT	
EONTAPI_EFTYPE	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled
Yes

file-read-symlink

[top]

Read the contents of a symlink.

Input Name	Range	Type	Description
path		string	Path of the symlink file to read. The value is expected to begin with /vol/.

Output Name	Range	Type	Description
symlink		string	Value of the symlink, which is the destination path contained in the symlink.

Errno	Description
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	
EONTAPI_ENOENT	
EONTAPI_ENAMETOOLONG	
ENOTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_ELOOP	
EONTAPI_ENOTDIR	

file-rename-file

[top]

Rename a file or directory. Note that this API cannot be used to rename to a different volume.

Input Name	Range	Type	Description
from-path		string	Original path of the file. The value must begin with /vol/.
to-path		string	Final path of the file. The value must begin with /vol/. All path components except the final file name must already exist.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EEXIST	
EONTAPI_EXDEV	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVSERVER_OP_NOT_ALLOWED	

file-set-space-reservation-info

[top]

Sets the space reservation settings for the named file. is-overwrite-enabled and is-fill-enabled both must be the same value.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
is-fill-enabled		boolean optional	Whether or not to set the file with fill.
is-overwrite-enabled		boolean optional	Whether or not to set the file with overwrite.
path		string	File to be queried.
volume-id		string	The identifier of the volume in which the named file exists. There are two legal choices for a volume identifier, either a DSID or a UUID. DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'. Here is an example of an actual DSID: 0x0000000000000401 UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 Space reservations are not supported on any volume within a Vserver

			with Infinite Volume, whether on the Infinite Volume itself or any of its constituents.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ESETSPCRESERROR	
EONTAPI_ENOSPC	
EONTAPI_EROFS	
EVOLUMEBUSY	
EONTAPI_EISVDISK	
EVOLUMEDOESNOTEXIST	
EVSERVER_OP_NOT_ALLOWED	

file-truncate-file

[top]

Truncate a file. Any data past the truncation point will be lost, of course.

Input Name	Range	Type	Description
path		string	Path of the file to truncate. The value is expected to begin with /vol/.
size	**[0..2^63-1]**	integer optional	If provided, the file size in bytes is set to this value. The default value is 0.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EFTYPE	
EVOLUMEQUIESCED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EVSERVER_OP_NOT_ALLOWED	

file-usage-get

[top]

Reports unique bytes held in a file.

Input Name	Range	Type	Description
length		integer optional	Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1].
path		string	File name to generate report: E.g., /vol/vol1/file1
start-offset		integer optional	Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1].

Output Name	Range	Type	Description
total-bytes		integer	Number of bytes held by this file. Range : [0..2^63-1].
unique-bytes		integer	Number of bytes 'uniquely' held by this file. Range : [0..2^63-1].

Errno	Description
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EAGAIN	

file-usage-result-get

[top]

Used to poll and retrieve results for a previous file-usage-start call. EINPROGRESS indicates that the background job has not finished yet.

Input Name	Range	Type	Description
cookie		string	Cookie that was returned in an earlier file-usage-start call.

Output Name	Range	Type	Description
total-bytes		integer	Number of bytes held by this file. Range : [0..2^63-1].
unique-bytes		integer	Number of bytes 'uniquely' held by this file. Range : [0..2^63-1].

Errno	Description
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EINVAL	
EONTAPI_ESTALE	
EONTAPI_EINPROGRESS	

file-usage-start

[top]

Starts a background job to compute unique bytes held in a file. The result can be obtained by passing the cookie to file-usage-result-get call.

Input Name	Range	Type	Description
length		integer optional	Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1].
path		string	File name to generate report: E.g., /vol/vol1/file1
start-offset		integer optional	Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1].

Output Name	Range	Type	Description

cookie		string	Cookie to be used with subsequent file-usage-result-get call.

Errno	Description
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EAGAIN	

file-write-file

[top]

Write data into a named file. If the file/stream does not previously exist, it will be created - the owner of the file will be root and it will be readable but not writable by non-root users. API will fail if data exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

Input Name	Range	Type	Description
data		string	Data to be written. The format of the data is ASCII hex characters, two characters representing one byte. Whitespace characters, for convenience in formatting, can be present in the value and are ignored.
offset	**[-1..2^63-1]**	integer	Offset into file at which to start writing. If the offset is -1, the data is appended to the file. The valid maximum value for (offset + data length) is the maximum total file size which is Data ONTAP version and file system dependent. If the value of the (offset + data length) is beyond the maximum total file size, the API will fail with EAPIERROR.
overwrite		boolean optional	If false, and the file already exists, then the API will fail, with an errno of EEXIST. This allows the client to ensure that it was the exclusive creator of the file. The default value is true.
path		string	Pathname of the file to write. For example: "/vol/<volume>/<file>".
stream-name		string optional	A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be written to the named stream associated with file specified by <path> Default is empty stream name, in which case the data is written to file specified by <path> This field is available in Data ONTAP 8.2 or later.

Output Name	Range	Type	Description
length	**[0..1048576]**	integer	Number of bytes actually written.

Errno	Description
EONTAPI_EACCES	
EONTAPI_ENOENT	
EONTAPI_EFTYPE	
EBADFILELENGTH	
EVOLUMEQUIESCED	

EVOLUMEBUSY	
EVSERVERNOTFOUND	
EAPIVSERVERMISSING	
EINTERNALERROR	
EAPIERROR	
EVSERVER_OP_NOT_ALLOWED	

Element definition: **file-info**

[top]

Information about a single file.

Name	Range	Type	Description
accessed-timestamp	**[0..2^32-1]**	integer	Last asscess time of the file. The value is in seconds since January 1, 1970.
acl-type		string	The type of access control list (acl) on the file. Possible values are: "no_acl", "nt_acl", "nfs_acl", and goddess forbid, "unknown".
bytes-used	**[0..2^63-1]**	integer optional	returns the number of bytes actually used on disk by this file
changed-timestamp	**[0..2^32-1]**	integer	Last changed time of the file. The value is in seconds since January 1, 1970.
creation-timestamp	**[0..2^32-1]**	integer	Creation time of the file. The value is in seconds since January 1, 1970.
dsid	**[0..2^64-1]**	integer optional	Data Set ID
file-size	**[0..2^63-1]**	integer	The size of the file in bytes.
file-type		string	Type of the file. Possible values: file, directory, blockdev, chardev, symlink, socket, fifo, stream, lun.
group-id	**[0..2^32-1]**	integer	The integer id of the group owner of the file.
hard-links-count	**[0..2^32-1]**	integer	The number of hard links to the file.
inode-gen-number	**[0..2^32-1]**	integer optional	Inode generation number
inode-number	**[0..2^32-1]**	integer	The file node number.
is-empty		boolean optional	This element tells whether directory is empty or not. Directory is considered empty if it only contains entries for "." and "..". This element is present if file is directory. In some special error cases like volume goes offline in between or directory is moved in the middle of getting this info, this field might not get set.
is-junction		boolean optional	Returns true if the directory is a junction.
is-snapshot		boolean optional	Returns true if the directory is a snapshot.
is-vm-		boolean	Returns true if the file is vm-aligned. A vm-aligned file is a file which is padded with zero-filled data at the beginning so that it's actual data starts at a different offset instead of zero. This is done in VM environments so that reads/writes to this file are aligned to WAFL's 4k

aligned		optional	block boundary. The amount by which the start offset is adjusted depends on the vm-align setting of the hosting volume. Use the volume-list-info or the volume-get-iter API to get this information.
modified-timestamp	**[0..2^32-1]**	integer	Last modification time of the file. The value is in seconds since January 1, 1970.
msid	**[0..2^64-1]**	integer optional	Mirror Set ID
name		string optional	Name of the file.
owner-id	**[0..2^32-1]**	integer	The integer id of the owner of the file.
perm		string	File permission bits. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **fingerprint-info**

[top]

FingerPrint info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate-uuid		string optional	An Universal Unique IDentifier (UUID) for the aggregate containing the volume. Attributes: non-creatable, non-modifiable
file-metadata		file-fingerprint-info optional	File fingerprint info
filer-id		uuid optional	ID (NVRAM ID) of owner. Attributes: non-creatable, non-modifiable
filer-name		string	Specifies the name of the filer. If the filer name has not been written to the disks, this will not be returned. Attributes: non-

		optional	creatable, non-modifiable
fingerprint-algorithm		fingerprintalgo optional	The digest algorithm which was used for the fingerprint computation. Fingerprint is computed using md5 or sha-256 digest algorithm. The digest algorithm to be used for the fingerprint computation can be specified when the fingerprint operation is started using the file-fingerprint-start API. If no algorithm was specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm. Attributes: non-creatable, non-modifiable Possible values: • "md5" , • "sha256"
fingerprint-end-time	**[0..2^64-1]**	integer optional	End time of fingerprint computation in seconds since January 1, 1970. Time is taken out of system clock. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable
fingerprint-input-path		string optional	Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable
fingerprint-scope		fingerprintscope optional	The file scope which was used for the fingerprint computation. Fingerprint is computed over the file data or metadata or both data and metadata depending on the scope selected when starting the fingerprint operation. If no scope was specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata. Attributes: non-creatable, non-modifiable Possible values: • "data_and_metadata" , • "data_only" , • "metadata_only"
fingerprint-start-time	**[0..2^64-1]**	integer optional	Start time of fingerprint computation in seconds since January 1, 1970. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable
fingerprint-version		string optional	Version of the fingerprint output format. Attributes: non-creatable, non-modifiable
formatted-fingerprint-end-time		string optional	End time of fingerprint computation in a human readable format :: in GMT timezone.Time is taken out of system clock. Attributes: non-creatable, non-modifiable
formatted-fingerprint-start-time		string optional	Start time of fingerprint computation in a human readable format: :: in GMT timezone. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable
formatted-snaplock-system-compliance-clock		string optional	If System Compliance Clock is initialized then human readable time :: in GMT timezone. A value of 'not_initalized' indicates that System Compliance Clock has not been initialized. Attributes: non-creatable, non-modifiable
formatted-snaplock-volume-compliance-clock		string optional	Volume Compliance Clock time for SnapLock volumes in human readable format. :: in GMT timezone. This field is not included for Non-SnapLock volumes. Attributes: non-creatable, non-modifiable
			Expiry date of the SnapLock volume in a human-readable format :: in GMT timezone. A value of 'infinite' indicates that the volume has an infinite expiry date. A value of 'indefinite' indicates that the volume has an indefinite expiry date. A value of 'unspecified' indicates that the volume has an

formatted-volume-expiry-date		string optional	unspecified expiry date. A value of 'scan_in_progress' indicates that expiry date is not displayed since WORM scan on the volume is in progress. A value of 'no_expiry_date' indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM Snapshot copies. This field is not included if the volume is offline or the volume is regular volume. Attributes: non-creatable, non-modifiable
is-volume-expiry-date-wraparound		boolean optional	True if the date represented in the field volume-expiry-date is a wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. The field is not included if volume-expiry-date is not included. Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable
snaplock-license		snaplocklicense optional	Status of SnapLock license. Attributes: non-creatable, non-modifiable Possible values: • "available" , • "not_available"
snaplock-system-compliance-clock	**[0..2^64-1]**	integer optional	If System Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable
snaplock-volume-compliance-clock	**[0..2^64-1]**	integer optional	Volume Compliance Clock time in seconds for the SnapLock volumes.The time is in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. This field is not included for Non-SnapLock volumes. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable
volume-containing-aggregate		string optional	Specifies the name of the aggregate in which the given volume resides Attributes: non-creatable, non-modifiable
volume-dsid	**[0..2^64-1]**	integer optional	The DSID (Data Set IDentifier) of the volume containing the given file. Attributes: non-creatable, non-modifiable
volume-expiry-date	**[0..2^64-1]**	integer optional	Expiry date of the SnapLock volume in seconds in the standard UNIX format(since 01/01/1970 00:00:00).Range: [0..2^64-1]. This field is not included if • Volume is non-SnapLock volume, or • SnapLock volume has an infinite expiry date, or • SnapLock volume has an indefinite expiry date, or • SnapLock volume has an unspecified expiry date, or • SnapLock volume has no WORM files or WORM Snapshot copies, or • SnapLock volume has WORM scanner in progress The volume expiry date can be in wraparound format.The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. Attributes: non-creatable, non-modifiable
volume-msid	**[0..2^64-1]**	integer optional	Volume's Mirror Set ID. Attributes: non-creatable, non-modifiable

volume-name		volume-name optional	Specifies the name of the volume on which the file resides. Attributes: non-creatable, non-modifiable
volume-snaplock-type		snaplocktype optional	The type of the SnapLock volume. This value is only given for SnapLock volumes. The possible values are : • compliance • enterprise Attributes: non-creatable, non-modifiable Possible values: • "non_snaplock" - Non SnapLock, • "compliance" - SnapLock Compliance, • "enterprise" - SnapLock Enterprise
vserver-id		uuid optional	An Universal Unique IDentifier (UUID) for the vserver owning the volume Attributes: non-creatable, non-modifiable
vserver-name		vserver-name optional	Specifies the name of the vserver which owns the volume on which the file resides. Attributes: non-creatable, non-modifiable

Element definition: **fingerprint-status-info**

[top]

Fingerprint Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
file		string optional	Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable
operation-status		wormopstatus optional	Specifies the operation status of the fingerprint operation. The operation-status of the fingerpirnt operation can be one of the following: • In-progress • Completed • Failed • Aborting • Unknown Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "in_progress" , • "failed" , • "aborting" , • "completed"
			Specifies the amount of progress that has been made on an ongoing fingerprint operation. If the operation-status of the

progress-percentage	**[0..2^32-1]**	integer optional	fingerprint operation is 'Completed' then the progress-percentage is always 100 and if the operation-status of the fingerprint operation is 'Failed' then the progress-percentage is always 0. Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable
volume		volume-name optional	Specifies the name of the volume on which the file resides. If using this parameter, the following parameters should also be specified: • vserver-name : Name of the vserver to which this volume belongs. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Specifies the name of the vserver which owns the volume on which the file resides. If using this parameter, the following parameters should also be specified: • volume-name : Name of the volume on which the file resides Attributes: key, non-creatable, non-modifiable

Element definition: **hole-range-info**

[top]

The hole start need not be an integral multiple of the block size. It will be rounded up to the start of the next block. The hole-size does not need to be the size of a block. It will be rounded down to the beginning of the block. It is possible that after the adjustments there is nothing to punch. That is ok and will be treated as success. Note that presently in WAFL small files are entirely within the inode. It is possible to "hole punch" those however nothing happens. The data is left alone. Considering the use case fot this ZAPI and the amount of effort to code the "correct" solution this is deemed an acceptable condition. If the file is vm-aligned then the range chosen to hole-punch could be rounded down by a block to ensure that we don't punch block containing valid user data.

Name	Range	Type	Description
hole-size		integer	Size of the hole in terms of bytes. If punching a hole WAFL presently limits this value to 4MB. Range : [0..2^63-1]
hole-start		integer	Starting offset of the hole. Range : [0..2^63-1]

Element definition: **inode-info**

[top]

Inode Information.

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dsid	**[0..2^64-1]**	integer optional	The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume or dsid must be specified in query. Attributes: key, non-creatable, non-modifiable
file-name		string optional	Name of the file associated with inode. Attributes: non-creatable, non-modifiable
file-path		string optional	Full path name of the file associated with the inode number. Attributes: key, non-creatable, non-modifiable
inode-number	**[0..2^32-1]**	integer	The inode number for which information is desired. Attributes: key, non-creatable, non-modifiable
parent-dir-index	**[0..2^64-1]**	integer optional	The index of the directory entry of the file in its parent directory. Attributes: non-creatable, non-modifiable
parent-inode-number	**[0..2^64-1]**	integer optional	Inode number of the parent directory of the file. Attributes: non-creatable, non-modifiable
snapshot-id	**[0..255]**	integer optional	The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snaphot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume. A value of 0 will refer to the active file system of the given volume. Attributes: non-creatable, modifiable
snapshot-name		string optional	The snapshot name within the given volume in which the given inode is to be referenced. At most, one of snapshot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume. Attributes: non-creatable, modifiable
volume		volume-name optional	The name of the volume containing the given inode. Exactly one of volume or dsid must be specified in query. Attributes: key, non-creatable, non-modifiable

Element definition: **inode-parent-info**

[top]

Inode's path and parent information.

Name	Range	Type	Description
inode-name		string optional	Name of inode in parent directory.
inode-parent-		integer optional	The opaque readdir cookie to determine the index of the inode in the parent directory tree. Note that this value is used as a testing hook, we do not

cookie			plan to support its semantics and those semantics might change over time.
inode-parent-inode-number		integer optional	Inode number of the parent directory.
inode-path		string optional	Full path to inode

Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **file-fingerprint-info**

[top]

File fingerprint info

Name	Range	Type	Description
access-time	**[0..2^64-**	integer	Access Time Attributes: non-creatable, non-modifiable

	1]	optional	
changed-time	**[0..2^64-1]**	integer optional	Changed Time Attributes: non-creatable, non-modifiable
creation-time	**[0..2^64-1]**	integer optional	Creation Time Attributes: non-creatable, non-modifiable
data-fingerprint		string optional	The digest value of data of the file. The fingerprint is base64 encoded. This field is not included if scope is 'metadata-only'. Attributes: non-creatable, non-modifiable
file		string optional	Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable
file-size	**[0..2^64-1]**	integer optional	The size of the file in bytes. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable
file-type		string optional	Type of the file. Possible values: • 'worm', • 'worm_appendable', • 'worm_active_log', • 'worm_log' and • 'regular' Attributes: non-creatable, non-modifiable
fileid	**[0..2^32-1]**	integer optional	A unique number within filesystem identifying the file for fingerprint. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
formatted-access-time		string optional	Last access time of the file formatted in a human-readable format :: in GMT timezone. The field is included for regular files and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable
formatted-changed-time		string optional	Last changed time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable
formatted-creation-time		string optional	Creation time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable
formatted-modified-time		string optional	Last modification time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable
formatted-retention-time		string optional	Expiry date of the file protected by SnapLock formatted in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. This field is not included for regular files that are not protected by SnapLock and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable
fsid	**[0..2^32-1]**	integer optional	Filesystem ID. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
group-id	**[0..2^32-1]**	integer optional	The integer id of the group owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
is-changed-time-wraparound		boolean optional	This field is included for WORM files when changed-time is in wraparound format. This field is true if the date represented in changed-time is in wraparound format and false if changed-time is not is not in wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included for regular files. Attributes: non-creatable, non-modifiable
			True if the date represented in retention-time is in wraparound format.The wraparound format indicates that dates after 01/19/2038

is-wraparound		boolean optional	are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if retention-time is not included Attributes: non-creatable, non-modifiable
litigation-count	**[0..255]**	integer optional	The number of litigations on the file. Attributes: non-creatable, non-modifiable
metadata-fingerprint		string optional	The digest value of metadata of the file. The metadata fingerprint is calculated for file size, file ctime, file mtime, file crtime, file retention time, file uid, gid and file type. The fingerprint is base64 encoded. This field is not included if scope is 'data-only'. Attributes: non-creatable, non-modifiable
modified-time	**[0..2^64-1]**	integer optional	Modification Time Attributes: non-creatable, non-modifiable
owner-id	**[0..2^32-1]**	integer optional	The integer id of the owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable
owner-sid		string optional	The owner SID of the file. This field is included in the case when file has NTFS security style. Attributes: non-creatable, non-modifiable
retention-time	**[0..2^64-1]**	integer optional	Retention Time Attributes: non-creatable, non-modifiable

Element definition: **fingerprintalgo**

[top]

MD5|SHA256 Possible values:

- "md5" ,
- "sha256"

[none]

Element definition: **fingerprintscope**

[top]

data-and-metadata|data-only|metadata-only Possible values:

- "data_and_metadata" ,
- "data_only" ,
- "metadata_only"

[none]

Element definition: **snaplocklicense**

[top]

available|not_available Possible values:

- "available" ,
- "not_available"

[none]

Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **wormopstatus**

[top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

APIs in Category: **file-directory-security**

file-directory-effective-permissions-get
file-directory-security-get
file-directory-security-ntfs-create
file-directory-security-ntfs-dacl-add
file-directory-security-ntfs-dacl-get-iter
file-directory-security-ntfs-dacl-modify
file-directory-security-ntfs-dacl-remove
file-directory-security-ntfs-delete
file-directory-security-ntfs-get-iter
file-directory-security-ntfs-modify
file-directory-security-ntfs-sacl-add
file-directory-security-ntfs-sacl-get-iter
file-directory-security-ntfs-sacl-modify
file-directory-security-ntfs-sacl-remove
file-directory-security-policy-create
file-directory-security-policy-delete
file-directory-security-policy-get-iter
file-directory-security-policy-task-add
file-directory-security-policy-task-get-iter
file-directory-security-policy-task-modify
file-directory-security-policy-task-remove
file-directory-security-remove-slag
file-directory-security-set

This set of ZAPIs allows to view or set file security settings. To view security of a file/folder, pass the file/folder path name as argument to show command. To set security on a file/folder, policy needs to be created. Policy has set of tasks and each task has a file/folder path name and the security descriptor identifier which will be applied on the file/folder.

file-directory-effective-permissions-get

[top]

Gives information about the maximal access for the mentioned user on given path.

Input Name	Range	Type	Description
client-ip-address		ip-address optional	This optional parameter specifies the incoming CIFS or UNIX user client ip address.
expand-mask		boolean optional	Specifies whether to expand the bit mask of ACE.
path		string	Specifies UNIX style file or folder path for which the effective permission has to be found out.
share-name		cifs-share-name optional	This optional parameter specifies that the given path name lookup starts from cifs share map path.
unix-user-name		string optional	Specifies name of the UNIX user for which the effective permission has to be found out.
win-user-name		string optional	Specifies name of the Windows user for which the effective permission has to be found out.

Output Name	Range	Type	Description
permission		fsecurity-acl[]	Specifies the resultant NT style effective permission.
share-path		string optional	The CIFS share path.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-get

[top]

Returns security information of a file/folder

Input Name	Range	Type	Description
cifs-share-name		cifs-share-name optional	Specifies that the given path name lookup starts from cifs share map path. Mutually exclusive with volume-name field.
expand-mask		boolean optional	Specifies whether to expand the bit mask of DOS attributes, security descriptor's control flags and every ACE.
inode		integer optional	File Inode Number
lookup-names		boolean optional	Specifies whether the SID needs to be converted to user/group name.
path		string optional	Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver
sddl		boolean optional	Specifies whether to show the acls in windows sddl format.
textual-mask		boolean optional	Specifies whether to show the mask in textual format.
volume-name		volume-name optional	Specifies that the given path name lookup starts from volume junction path. Mutually exclusive with cifs-share-name field.

Output Name	Range	Type	Description
acls		fsecurity-acl[] optional	NTFS or NFSV4 Security descriptor ACLs.
dos-attributes		integer optional	DOS Attributes
effective-style		security-style-enum	Effective security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security.
expanded-dos-attr		string optional	Bitwise expanded DOS Attributes of the specified file/folder path. This field returns value if expand mask is true. Example follows, DOS Attributes: ...0 .... = Offline .... ..0. .... = Sparse .... 0... .... = Normal ....0. .... = Archive ....1 .... = Directory .... .0.. = System ....0. = Hidden ....0 = Read Only
inode		integer optional	File Inode Number
path		string optional	Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver
security-style		security-style-enum	Security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security.
text-dos-attr		string optional	DOS Attributes in Text
unix-group-id		integer optional	UNIX Group Id
unix-mode-bits		integer optional	Unix mode permission bits in octal value.
unix-user-id		integer optional	UNIX User Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-create

[top]

Creates a new NTFS security descriptor

Input Name	Range	Type	Description
			Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags. 1... .... = Self Relative .0.. .... = RM Control Valid ..0. .... = SACL Protected

control-flags-raw	**[0..2^32-1]**	integer optional	...0 .... = DACL Protected .... 0... .... = SACL Inherited .... .0.. .... = DACL Inherited .... ..0. .... = SACL Inherit Required ....0 .... = DACL Inherit Required ....0. .... = SACL Defaulted ....0 .... = SACL Present .... 0... = DACL Defaulted .... .1.. = DACL Present ....0. = Group Defaulted ....0 = Owner Defaulted At present only the following flags are honored. Others are ignored. ..0. .... = SACL Protected ...0 .... = DACL Protected ....0. .... = SACL Defaulted .... 0... = DACL Defaulted ....0. = Group Defaulted ....0 = Owner Defaulted
group		name-or-sid optional	Specifies group's SID or domain account name of NTFS security descriptor.
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
owner		name-or-sid optional	Specifies owner's SID or domain account name of NTFS security descriptor.
return-record		boolean optional	If set to true, returns the file-directory-security-ntfs on successful creation. Default: false

Output Name	Range	Type	Description
result		file-directory-security-ntfs optional	The file-directory-security-ntfs created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-dacl-add

[top]

Add a discretionary access control entry to NTFS security descriptor.

Input Name	Range	Type	Description
access-type		access-type	Specifies DACL ACE's access type. Possible values: • "deny" , • "allow"
account		name-or-sid	Specifies DACL ACE's SID or domain account name of NTFS security descriptor.
			Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values: • "read_data" , • "write_data" ,

advanced-rights		advanced-access-rights[] optional	• "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[] optional	Specifies apply DACL entry. Possible values: • "this_folder" , • "sub_folders" , • "files"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-dacl-get-iter

[top]

Returns information about one or more discretionary access control entries

Input Name	Range	Type	Description
desired-attributes		file-directory-security-ntfs-dacl optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		file-directory-	A query that specifies which objects to return. A query could be

query		security-ntfs-dacl optional	specified on any number of attributes in the file-directory-security-ntfs-dacl object. All file-directory-security-ntfs-dacl objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-ntfs-dacl[] optional	The list of attributes of file-directory-security-ntfs-dacl objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-ntfs-dacl objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-dacl-modify

[top]

Modify a discretionary access control entry of a file security descriptor

Input Name	Range	Type	Description
access-type		access-type	Specifies DACL ACE's access type. Possible values: • "deny" , • "allow"
account		name-or-sid	Specifies DACL ACE's SID or domain account name of NTFS security descriptor.
advanced-rights		advanced-access-rights[] optional	Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
			Specifies this ACE has to be applied on. Possible values:

apply-to		inheritance-level[] optional	• "this_folder" , • "sub_folders" , • "files"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-dacl-remove

[top]

Remove a discretionary access control entry from NTFS security descriptor.

Input Name	Range	Type	Description
access-type		access-type	Specifies DACL ACE's access type. Possible values: • "deny" , • "allow"
account		name-or-sid	Specifies DACL ACE's SID or domain account name of NTFS security descriptor.
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-delete

[top]

Deletes an NTFS security descriptor information

Input Name	Range	Type	Description
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-get-iter

[top]

Returns information about one or more NTFS security descriptor

Input Name	Range	Type	Description
desired-attributes		file-directory-security-ntfs optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		file-directory-security-ntfs optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs object. All file-directory-security-ntfs objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-ntfs[] optional	The list of attributes of file-directory-security-ntfs objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-ntfs objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-modify

[top]

Modifies an NTFS security descriptor

Input Name	Range	Type	Description
			Specifies the security descriptor control flags in hexa decimal. The

control-flags-raw	**[0..2^32-1]**	integer optional	following are the bit fields of control flags. 1... .... = Self Relative .0.. .... = RM Control Valid ..0. .... = SACL Protected ...0 .... = DACL Protected .... 0... .... = SACL Inherited .... .0.. .... = DACL Inherited .... ..0. .... = SACL Inherit Required ....0 .... = DACL Inherit Required ....0. .... = SACL Defaulted ....0 .... = SACL Present .... 0... = DACL Defaulted .... .1.. = DACL Present ....0. = Group Defaulted ....0 = Owner Defaulted At present only the following flags are honored. Others are ignored. ..0. .... = SACL Protected ...0 .... = DACL Protected ....0. .... = SACL Defaulted .... 0... = DACL Defaulted ....0. = Group Defaulted ....0 = Owner Defaulted
group		name-or-sid optional	Specifies group's SID or domain account name of NTFS security descriptor.
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
owner		name-or-sid optional	Specifies owner's SID or domain account name of NTFS security descriptor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-sacl-add

[top]

Add a system/audit access control entry to NTFS security descriptor.

Input Name	Range	Type	Description
account		name-or-sid	Specifies SACL ACE's SID or domain account name of NTFS security descriptor.
advanced-		advanced-access-	Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" ,

rights		rights[] optional	"delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[] optional	Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values: • "this_folder" , • "sub_folders" , • "files"
audit-access-type		audit-access-type	Specifies SACL ACE's access type. Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies SACL ACE's access rights. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-sacl-get-iter

[top]

Returns information about one or more system/audit access control entries

Input Name	Range	Type	Description
desired-attributes		file-directory-security-ntfs-sacl optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		file-directory-security-ntfs-sacl optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs-sacl object. All file-directory-security-ntfs-sacl objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-ntfs-sacl[] optional	The list of attributes of file-directory-security-ntfs-sacl objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-ntfs-sacl objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-ntfs-sacl-modify

[top]

Modify an system/audit access control entry of a file security descriptor

Input Name	Range	Type	Description
account		name-or-sid	Specifies SACL ACE's SID or domain account name of NTFS security descriptor.
advanced-rights		advanced-access-rights[] optional	Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[]	Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values: • "this_folder" ,

		optional	• "sub_folders" , • "files"
audit-access-type		audit-access-type	Specifies SACL ACE's access type. Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.
rights		access-rights optional	Specifies SACL ACE's access rights. Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-ntfs-sacl-remove

[top]

Remove an system/audit access control entry from NTFS security descriptor.

Input Name	Range	Type	Description
account		name-or-sid	Specifies SACL ACE's SID or domain account name of NTFS security descriptor.
audit-access-type		audit-access-type	Specifies SACL ACE's access type. Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd	Specifies NTFS security descriptor identifier.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-create

[top]

Creates a new file/folder security policy configuration. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
policy-name		file-security-policy-name	Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.
return-record		boolean optional	If set to true, returns the file-directory-security-policy on successful creation. Default: false

Output Name	Range	Type	Description
result		file-directory-security-policy optional	The file-directory-security-policy created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

file-directory-security-policy-delete

[top]

Deletes a file/folder security policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
policy-name		file-security-policy-name	Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-get-iter

[top]

Returns information about one or more security policies. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
desired-attributes		file-directory-security-policy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		file-directory-security-policy optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy object. All file-directory-security-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-policy[] optional	The list of attributes of file-directory-security-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-policy-task-add

[top]

Add a file security policy task. A task maps security descriptor with a file or folder.

Input Name	Range	Type	Description
access-control		access-control optional	Specifies the access control of task to be applied. Its value can be file-directory or slag respectively. The slag value is not supported on FlexGroups. Default value will be file-directory. Possible values: • "file_directory" , • "slag"
		ntfs-	Specifies NTFS propagation mode. Possible values:

ntfs-mode		propagation-mode optional	"propagate" , • "ignore" , • "replace"
ntfs-sd		file-security-ntfs-sd[] optional	Specifies NTFS security descriptor identifier.
path		string	Specifies the file or folder path of the task. In case of SLAG this path specify the volume or qtree mounted path.
policy-name		file-security-policy-name	Specifies the name of the policy to which the task needs to be added.
security-type		security-type optional	Specifies the type of security. Possible values: • "ntfs" , • "nfsv4"
task-index-number	**[1..10000]**	integer optional	Specifies the target index/position of this task in the policy. If a policy has already 5 tasks and this is the 6th task you are adding and you want to add this task as 2nd task, you can specifiy the index 2. By default the task gets added as last task. If the index number exceeds the number of positions, it will go at the end.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-task-get-iter

[top]

Returns information about one or more policy tasks. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

Input Name	Range	Type	Description
desired-attributes		file-directory-security-policy-task optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		file-directory-security-policy-task optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy-task object. All file-directory-security-policy-task objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		file-directory-security-policy-task[] optional	The list of attributes of file-directory-security-policy-task objects.
next-tag		string optional	Tag for the next call. Not present when there are no more file-directory-security-policy-task objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

file-directory-security-policy-task-modify

[top]

Modify a file security policy task

Input Name	Range	Type	Description
ntfs-mode		ntfs-propagation-mode optional	NTFS Propagation Mode Possible values: • "propagate" , • "ignore" , • "replace"
ntfs-sd		file-security-ntfs-sd[] optional	NTFS Security Descriptor Name
path		string	Path
policy-name		file-security-policy-name	Policy Name
security-type		security-type optional	Security Type Possible values: • "ntfs" , • "nfsv4"
task-index-number	**[1..10000]**	integer optional	Position

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-policy-task-remove

[top]

Remove a task from the policy of a vserver.

Input Name	Range	Type	Description
path		string	Specifies the file or folder path of the task.
policy-		file-security-policy-	Specifies the name of the policy from which the task has

name		name	been removed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-remove-slag

[top]

Removes SLAG from the specified volume or qtree path.

Input Name	Range	Type	Description
path		string	Specifies the path of the volume or qtree from which slag to be removed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

file-directory-security-set

[top]

Apply security descriptors on files and directories defined in a policy to a Vserver

Input Name	Range	Type	Description
ignore-broken-symlinks		boolean optional	Skip Broken Symlinks
ismodify		boolean optional	Modify SD op through REST
policy-name		file-security-policy-name	Specifies the name of the policy whose security settings have to be applied.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

Element definition: **file-directory-security-ntfs** [top]

NTFS security descriptor management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
control-flags-raw	**[0..2^32-1]**	integer optional	Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags. 1... .... = Self Relative .0.. .... = RM Control Valid ..0. .... = SACL Protected ...0 .... = DACL Protected .... 0... .... = SACL Inherited .... .0.. .... = DACL Inherited .... ..0. .... = SACL Inherit Required ....0 .... = DACL Inherit Required ....0. .... = SACL Defaulted ....0 .... = SACL Present .... 0... = DACL Defaulted .... .1.. = DACL Present ....0. = Group Defaulted ....0 = Owner Defaulted At present only the following flags are honored. Others are ignored. ..0. .... = SACL Protected ...0 .... = DACL Protected ....0. .... = SACL Defaulted .... 0... = DACL Defaulted ....0. = Group Defaulted ....0 = Owner Defaulted Attributes: optional-for-create,

			modifiable
group		name-or-sid optional	Specifies group's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable
ntfs-sd		file-security-ntfs-sd optional	Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable
owner		name-or-sid optional	Specifies owner's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-directory-security-ntfs-dacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-type		access-type optional	Specifies DACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values: • "deny" , • "allow"
account		name-or-sid optional	Specifies DACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable
advanced-rights		advanced-access-rights[] optional	Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values: • "read_data" , • "write_data" , • "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"

apply-to		inheritance-level[] optional	Specifies this ACE has to be applied on. Attributes: optional-for-create, modifiable Possible values: • "this_folder" , • "sub_folders" , • "files"
ntfs-sd		file-security-ntfs-sd optional	Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable
readable-access-rights		string optional	Specifies the current access rights. The access rights must be set to one among rights,advanced-rights,rights-raw. Attributes: non-creatable, non-modifiable
rights		access-rights optional	Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-directory-security-ntfs-sacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account		name-or-sid optional	Specifies SACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable
			Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Attributes: optional-for-create, modifiable Possible values: • "read_data" , • "write_data" ,

advanced-rights		advanced-access-rights[] optional	• "append_data" , • "read_ea" , • "write_ea" , • "execute_file" , • "delete_child" , • "read_attr" , • "write_attr" , • "delete" , • "read_perm" , • "write_perm" , • "write_owner" , • "full_control"
apply-to		inheritance-level[] optional	Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Attributes: optional-for-create, modifiable Possible values: • "this_folder" , • "sub_folders" , • "files"
audit-access-type		audit-access-type optional	Specifies SACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values: • "failure" , • "success"
ntfs-sd		file-security-ntfs-sd optional	Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable
readable-access-rights		string optional	Specifies the current access rights. Access rights can be specified by one of the following fields, rights, advanced-rights and rights-raw. These fields are mutually exclusive fields. If rights field is set and other two fields (advanced-rights, rights-raw) cant be set and so readable-access-rights field has the value of rights field. If rights-raw field is set and other two fields (advanced-rights, rights) are not set then readable-access-rights field has the value of rights-raw field. If advanced-rights field is set and other two fields (rights, rights-raw) are not set then readable-access-rights field has the value of advanced-rights field. Attributes: non-creatable, non-modifiable
rights		access-rights optional	Specifies SACL ACE's access rights. Attributes: optional-for-create, modifiable Possible values: • "no_access" , • "full_control" , • "modify" , • "read_and_execute" , • "read" , • "write"
rights-raw	**[0..2^32-1]**	integer optional	Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable
vserver		vserver-name	Vserver Attributes: key, non-creatable, non-modifiable

		optional	

Element definition: **file-directory-security-policy**

[top]

File/folder security policy management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
policy-name		file-security-policy-name optional	Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-directory-security-policy-task**

[top]

File security policy task management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-control		access-control optional	Access Control Level Attributes: non-creatable, non-modifiable Possible values: • "file_directory" , • "slag"
ntfs-mode		ntfs-propagation-mode optional	NTFS Propagation Mode Attributes: non-creatable, non-modifiable Possible values: • "propagate" , • "ignore" , • "replace"

ntfs-sd		file-security-ntfs-sd[] optional	NTFS Security Descriptor Name Attributes: non-creatable, non-modifiable
path		string optional	Path Attributes: key, non-creatable, non-modifiable
policy-name		file-security-policy-name optional	Policy Name Attributes: key, non-creatable, non-modifiable
security-type		security-type optional	Security Type Attributes: non-creatable, non-modifiable Possible values: • "ntfs" , • "nfsv4"
task-index-number	**[1..10000]**	integer optional	Position Attributes: key, non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **file-security-ntfs-sd**

[top]

NTFS file security descriptor identifier. This can be any valid text input.

[none]

Element definition: **file-security-policy-name**

[top]

The file/folder security policy identifier. This can be any valid text.

[none]

Element definition: **fsecurity-acl**

[top]

Security access control list.

[none]

Element definition: **inheritance-level**

[top]

this-folder|sub-folders|files Possible values:

- "this_folder" ,
- "sub_folders" ,
- "files"

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **name-or-sid** [top]

An user or group name that is specified in the form of valid username/groupname with domain or valid SID string

[none]

Element definition: **ntfs-propagation-mode** [top]

propagate|ignore|replace Possible values:

- "propagate" ,
- "ignore" ,
- "replace"

[none]

Element definition: **security-style-enum** [top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **security-type** [top]

ntfs|nfsv4 Possible values:

- "ntfs" ,
- "nfsv4"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **fileservice-audit**

fileservice-audit-config-create
fileservice-audit-config-get
fileservice-audit-config-get-iter
fileservice-audit-config-get-total-records
fileservice-audit-config-modify
fileservice-audit-disable
fileservice-audit-enable
fileservice-audit-remove
fileservice-audit-repair
fileservice-audit-rotate-log

This set of ZAPIs help manage the File Service Audit settings for auditing file access over CIFS and NFS, CIFS logon, logoff and management events.

fileservice-audit-config-create

[top]

Create audit configuration for a Vserver

Input Name	Range	Type	Description
destination		string	Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error
events		audit-events[] optional	The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values: • "file_ops" - File Operation Events, • "cifs_logon_logoff" - CIFS Logon and Logoff Events, • "cap_staging" - Central Access Policy Staging Events, • "file_share" - File Share Category Events, • "audit_policy_change" - Audit Policy Change Events, • "user_account" - Local User Account Management Events, • "authorization_policy_change" - Authorization Policy Change Events, • "security_group" - Local Security Group Management Events, • "async_delete" - Volume File Async Delete Events
format		audit-format optional	The format in which the logs would be generated by consolidation process. Default: evtx Possible values: • "xml" - Data ONTAP-Specific XML Log Format, • "evtx" - Microsoft Windows EVTX Log Format
retention-duration		elapsed-time-ext optional	Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s

return-record		boolean optional	If set to true, returns the fileservice-audit-config on successful creation. Default: false
rotate-limit	**[0..2^32-1]**	integer optional	Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0
rotate-schedule-day		cron-day-of-month[] optional	Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-dayofweek		cron-day-of-week[] optional	Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-hour		cron-hour[] optional	Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-minute		cron-minute[] optional	Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-month		cron-month[] optional	Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-size		audit-rotate-size-or-dash optional	Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB

Output Name	Range	Type	Description
result		fileservice-audit-config optional	The fileservice-audit-config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

fileservice-audit-config-get

[top]

Show Audit configuration details for a Vserver

Input Name	Range	Type	Description
desired-attributes		fileservice-audit-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		fileservice-audit-config	The attributes of the fileservice-audit-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

fileservice-audit-config-get-iter

[top]

Show Audit configuration details for all Vservers

Input Name	Range	Type	Description
desired-attributes		fileservice-audit-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fileservice-audit-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fileservice-audit-config object. All fileservice-audit-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fileservice-audit-config[] optional	The list of attributes of fileservice-audit-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fileservice-audit-config objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

fileservice-audit-config-get-total-records

[top]

Return the total number of records

Output Name	Range	Type	Description
count	[0..2^64-1]	integer	The total number of fileservice-audit-config objects.

fileservice-audit-config-modify

[top]

Modify audit configuration for a Vserver

Input Name	Range	Type	Description
audit-guarantee		boolean optional	Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true
destination		string optional	Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error
events		audit-events[] optional	The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values: • "file_ops" - File Operation Events, • "cifs_logon_logoff" - CIFS Logon and Logoff Events, • "cap_staging" - Central Access Policy Staging Events, • "file_share" - File Share Category Events, • "audit_policy_change" - Audit Policy Change Events, • "user_account" - Local User Account Management Events, • "authorization_policy_change" - Authorization Policy Change Events, • "security_group" - Local Security Group Management Events, • "async_delete" - Volume File Async Delete Events
format		audit-format optional	The format in which the logs would be generated by consolidation process. Default: evtx Possible values: • "xml" - Data ONTAP-Specific XML Log Format, • "evtx" - Microsoft Windows EVTX Log Format
retention-duration		elapsed-time-ext optional	Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s
rotate-limit	**[0..2^32-1]**	integer optional	Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0
rotate-schedule-day		cron-day-of-month[] optional	Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-dayofweek		cron-day-of-week[] optional	Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-hour		cron-hour[] optional	Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-minute		cron-minute[] optional	Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
rotate-schedule-month		cron-month[] optional	Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter
		audit-rotate-	Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters.

rotate-size		size-or-dash optional	If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

fileservice-audit-disable

[top]

Disable Auditing for specified Vserver

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

fileservice-audit-enable

[top]

Enable Auditing for specified Vserver.

Events on FlexGroup volumes will not be emitted to the audit log.

Input Name	Range	Type	Description
force		boolean optional	Force Enable

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	
ENOSTAGINGVOLUME	

fileservice-audit-remove

[top]

Disable Audit Configuration for specified vserver

Input Name	Range	Type	Description
force		boolean optional	Force Delete

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

fileservice-audit-repair

[top]

Repair the audit infrastructure

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

fileservice-audit-rotate-log

[top]

Rotate audit log for specified vserver

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,
- "authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

Element definition: **audit-format**

[top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

Element definition: **audit-rotate-size-or-dash** [top]

[none]

Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month** [top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

Element definition: **fileservice-audit-config**

[top]

Vserver Audit configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
audit-guarantee		boolean optional	Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true Attributes: non-creatable, modifiable
destination		string optional	Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error Attributes: required-for-create, modifiable
events		audit-events[] optional	The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Attributes: optional-for-create, modifiable Possible values: • "file_ops" - File Operation Events, • "cifs_logon_logoff" - CIFS Logon and Logoff Events, • "cap_staging" - Central Access Policy Staging Events, • "file_share" - File Share Category Events, • "audit_policy_change" - Audit Policy Change Events, • "user_account" - Local User Account Management Events, • "authorization_policy_change" - Authorization Policy Change Events, • "security_group" - Local Security Group Management Events, • "async_delete" - Volume File Async Delete Events
format		audit-format optional	The format in which the logs would be generated by consolidation process. Default: evtx Attributes: optional-for-create, modifiable Possible values: • "xml" - Data ONTAP-Specific XML Log Format, • "evtx" - Microsoft Windows EVTX Log Format

is-enabled		boolean optional	Auditing State. Default: false Attributes: non-creatable, non-modifiable
retention-duration		elapsed-time-ext optional	Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s Attributes: optional-for-create, modifiable
rotate-limit	**[0..2^32-1]**	integer optional	Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 Attributes: optional-for-create, modifiable
rotate-schedule-day		cron-day-of-month[] optional	Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-dayofweek		cron-day-of-week[] optional	Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-hour		cron-hour[] optional	Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-minute		cron-minute[] optional	Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-schedule-month		cron-month[] optional	Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable
rotate-size		audit-rotate-size-or-dash optional	Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB Attributes: optional-for-create, modifiable
rotation-schedule-description		string optional	Rotation schedules derived from rotation time related parameters Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,

"authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

Element definition: **audit-format** [top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

Element definition: **audit-rotate-size-or-dash** [top]

[none]

Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **flash**

flash-get-thresholds
flash-thresholds-get-iter

The Flash Management Module (FMM) is the management interface to access information about flash devices in the system.

flash-get-thresholds

[top]

Get threshold profiles available in Flash Management Module.

Input Name	Range	Type	Description
node		string	The name of the system to which the flash thresholds apply.
profile		string optional	Name of the threshold profile. If not provided, all available profiles will be printed.

Output Name	Range	Type	Description
flash-threshold-profile		flash-threshold-profile[] optional	A collection of failure threshold entries.

flash-thresholds-get-iter

[top]

Iterate over a list of Flash Cache threshold profiles objects.

Input Name	Range	Type	Description
desired-attributes		flash-threshold-profile optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		flash-threshold-profile optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache threshold profiles object. All Flash Cache threshold profiles objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flash-threshold-profile[] optional	The list of attributes of Flash Cache threshold profiles objects.

next-tag		string optional	Tag for the next call. Not present when there are no more Flash Cache threshold profiles objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **flash-threshold-profile**

[top]

A definition for a threshold element

Name	Range	Type	Description
flash-threshold		flash-threshold[]	The list of threshold entries for this profile.
node		string	The name of the system to which the flash thresholds apply.
profile		string	The name of the profile in plain text.

Element definition: **flash-threshold**

[top]

A definition for a threshold element. Each threshold specifies what level of errors or failures the specified domain can sustain before the specified action is taken.

Name	Range	Type	Description
action		string	Action to be taken if this threshold is exceeded. Possible values: "log an EMS event", "log an EMS_event, and disable the 'domain'", "log an EMS event, and send an AutoSupport message", "log an EMS event, send an AutoSupport message, and disable the 'domain'"
domain		string	The type of domain. Possible values: "card", "bank", "chip" (in Data ONTAP 7.3.x to 8.1) or "lun" (from Data ONTAP 8.2 onwards).
threshold-units		string	The metric for threshold. Possible values: "count", or "percentage".
threshold-value	**[0..2^31-1]**	integer	Threshold value in 'threshold-units'.
time-slice		string	The time slice. Available if the 'threshold-unit' is "count". If not, output will say 'none'. Possible values: "none", "seconds", "minutes", or "hours".

APIs in Category: **flash-device**

flash-device-get-iter
flash-device-list-info

Flash Cache is the caching device. This interface is used to access information about Flash Cache devices in the system.

flash-device-get-iter

[top]

Iterate over a list of Flash Cache device info objects.

Input Name	Range	Type	Description
desired-attributes		flash-device-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		flash-device-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache device info object. All Flash Cache device info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flash-device-info[] optional	The list of attributes of Flash Cache device info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Flash Cache device info objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

flash-device-list-info

[top]

Get a collection of Flash Cache device info objects.

Input Name	Range	Type	Description
node		node-name	Node
slot-number		integer	Slot

		optional	
subslot-number		integer optional	Subslot

Output Name	Range	Type	Description
flash-device-info		flash-device-info[] optional	Information about Flash Cache devices

Errno	Description
EINTERNALERROR	

Element definition: **flash-device-info**

[top]

Information about Flash Cache devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
average-erase-cycle-count	**[0..2^64-1]**	integer optional	Avg Erase Cycle Count Attributes: non-creatable, non-modifiable
capacity	**[0..2^32-1]**	integer optional	Capacity Attributes: non-creatable, non-modifiable
device-id	**[0..2^32-1]**	integer optional	Device ID Attributes: key, non-creatable, non-modifiable
firmware-file		string optional	Firmware Filename Attributes: non-creatable, non-modifiable
firmware-revision		string optional	Firmware Version Attributes: non-creatable, non-modifiable
hardware-revision		string optional	Hardware Revision Attributes: non-creatable, non-modifiable
last-change-time	**[0..2^32-1]**	integer optional	Time Last State Change Attributes: non-creatable, non-modifiable
model-name		string optional	Model Number Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
part-number		string optional	Part Number Attributes: non-creatable, non-modifiable
percent-online	**[0..2^32-1]**	integer optional	Percent Online Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial Number Attributes: non-creatable, non-modifiable
service-time	**[0..2^64-**	integer	Service Time Attributes: non-creatable, non-modifiable

	1]	optional	
slot-number	**[0..2^32-1]**	integer optional	Slot Attributes: key, non-creatable, non-modifiable
slot-string		string optional	Slot String Attributes: non-creatable, non-modifiable
status		fc-dev-status optional	Device State Attributes: non-creatable, non-modifiable Possible values: • "ok" , • "erasing" , • "erased" , • "failed" , • "removed" , • "online" , • "offline_failed" , • "degraded" , • "offline_threshold"
subslot-number	**[0..2^32-1]**	integer optional	Subslot Attributes: key, non-creatable, non-modifiable
threshold-profile		string optional	Threshold Profile Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **fc-dev-status**

[top]

ok|erasing|erased|failed|removed|online|offline_failed|degraded|offline_threshold Possible values:

- "ok" ,
- "erasing" ,
- "erased" ,
- "failed" ,
- "removed" ,
- "online" ,
- "offline_failed" ,
- "degraded" ,
- "offline_threshold"

[none]

APIs in Category: **flexcache**

flexcache-connected-cache-get-iter
flexcache-create-async
flexcache-default-size-get
flexcache-destroy-async
flexcache-get-iter
flexcache-origin-cleanup-cache-relationship
flexcache-origin-config-get-iter
flexcache-origin-config-modify
flexcache-usage-get

This set of APIs allow configuring and managing FlexCache on Data ONTAP Cluster-Mode environment.

flexcache-connected-cache-get-iter

[top]

Retrieve connected cache information. This must be run at the origin cluster.

Input Name	Range	Type	Description
desired-attributes		flexcache-origin-connected-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		flexcache-origin-connected-cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin object. All flexcache-origin objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flexcache-origin-connected-cache-info[] optional	The list of attributes of flexcache-origin objects.
next-tag		string optional	Tag for the next call. Not present when there are no more flexcache-origin objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EINTERNALERROR	

flexcache-create-async

[top]

Create a cache relationship. This must be run at the cache cluster.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent.
aggr-list-multiplier		integer optional	Aggregate list repeat count
auto-provision-as		autoprovisionvolumetype optional	Automatically provision as volume of type
is-disconnected-mode-off-for-locks		boolean optional	Specifies if the origin will honor the cache side locks when doing the lock checks in the disconnected mode. The default value will be set to false to allow origin to skip such lock checks with the disconnected cache and go ahead with processing of the conflicting locks. If set to true the origin denies the lock operation (open or byte-range) if it conflicts with the authority granted to the disconnected cache.
is-global-file-locking-enabled		boolean optional	Global file locking mode
is-relative-size-enabled		boolean optional	Relative Sizing for Flexcache
is-writeback-enabled		boolean optional	Writeback for FlexCache
junction-path		junction-path optional	Junction path of the cache volume
origin-volume		volume-name	The name of the origin volume for the cache volume.
origin-vserver		xc-vs-name optional	The name of origin Vserver where the origin volume resides
per-inode-dirty-limit		integer optional	Flexcache Per Inode Dirty Limit
relative-size-percentage		integer optional	Flexcache Relative Size Percentage
size		size optional	Size of cache volume
space-guarantee		space-guarantee-enum optional	Flexcache volume space guarantee type
use-tiered-aggregate		boolean optional	Flexcache volume uses fabricpool aggregate
volume		volume-name	The name of the cache volume.
writeback-		integer	

scrub-threshold		optional	Flexcache Writeback Scrub Threshold
writeback-transfer-limit		integer optional	Flexcache Writeback Transfer Limit

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this flexcache.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EINTERNALERROR	
ESERVICENOTLICENSED	
EVSERVERNOTFOUND	
EVOLUMENAMEINVALID	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLALREADYMOUNTED	
EINSUFFICIENTAGGREGATES	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	
EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_MCC_UNSUPPORTED	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM	
E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MAXIMUM	
EVOLEXISTS	

flexcache-default-size-get

[top]

Get recommended FlexCache size

Input Name	Range	Type	Description
origin-size	**[0..2^64-1]**	integer	Origin Size

Output Name	Range	Type	Description
flexcache-size	**[0..2^64-1]**	integer optional	FlexCache Size

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

flexcache-destroy-async

[top]

Delete a cache relationship. This must be run at the cache cluster. A job will be spawned to operate on the flexcache and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		volume-name	The name of the cache volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

flexcache-get-iter

[top]

Get a set of cache relationships. This must be run at the cache cluster.

Input Name	Range	Type	Description
desired-attributes		flexcache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		flexcache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache object. All flexcache objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		flexcache-info[] optional	The list of attributes of flexcache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more flexcache objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

flexcache-origin-cleanup-cache-relationship

[top]

Cleanup cache relationship. This must be run at the origin cluster.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EINTERNALERROR	
FEATURE/COMMAND_NOT_SUPPORTED	

flexcache-origin-config-get-iter

[top]

Get FlexCache origin configuration for all origin volume. This must be run at the origin cluster.

Input Name	Range	Type	Description
desired-attributes		flexcache-origin-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		flexcache-origin-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin-config object. All flexcache-origin-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		flexcache-origin-config[] optional	The list of attributes of flexcache-origin-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more flexcache-origin-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

flexcache-origin-config-modify

[top]

Modify the FlexCache origin configuration. This must be run at the origin cluster.

Input Name	Range	Type	Description
is-bli-enabled		boolean optional	Is BLI Enabled.
is-global-file-locking-enabled		boolean optional	Is Global File Locking Enabled.
origin-volume		volume-name	Name of the origin volume.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

flexcache-usage-get

[top]

Get the capacity used by FlexCache

Output Name	Range	Type	Description
used-size	**[0..2^64-1]**	integer optional	Total FlexCache Size
used-size-pct	**[0..2^64-1]**	integer optional	Percentage of Licensed Capacity Used

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **autoprovisionvolumetype** [top]

FlexGroup Possible values:

- "flexgroup"

[none]

Element definition: **flexcache-info** [top]

Information about the cache relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. Attributes: optional-for-create, non-modifiable
create-time		date optional	FlexCache Volume Create Time Attributes: non-creatable, non-modifiable
flexgroup-msid	**[0..2^64-1]**	integer optional	Cache volume's FlexGroup MSID Attributes: non-creatable, non-modifiable
junction-path		junction-path optional	Junction path of the cache volume Attributes: optional-for-create, non-modifiable
origin-cluster		cluster-name optional	The name of the origin cluster, where the origin Vserver and origin volume reside Attributes: non-creatable, non-modifiable
origin-volume		volume-name optional	The name of the origin volume for the cache volume. Attributes: required-for-create, non-modifiable
origin-volume-msid	**[0..2^64-1]**	integer optional	Origin volume's MSID Attributes: non-creatable, non-modifiable
origin-vserver		xc-vs-name optional	The name of origin Vserver where the origin volume resides Attributes: optional-for-create, non-modifiable
origin-vserver-uuid		uuid optional	Origin Vserver UUID Attributes: non-creatable, non-modifiable

size		size optional	Size of cache volume Attributes: optional-for-create, non-modifiable
space-guarantee		space-guarantee-enum optional	Flexcache volume space guarantee type Attributes: optional-for-create, non-modifiable Possible values: • "none" , • "volume"
volume		volume-name optional	The name of the cache volume. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	The name of the Vserver which owns the volume. Attributes: key, non-creatable, non-modifiable

Element definition: **flexcache-origin-config**

[top]

FlexCache Origin Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-bli-enabled		boolean optional	Is BLI Enabled. Attributes: non-creatable, modifiable
is-global-file-locking-enabled		boolean optional	Is Global File Locking Enabled. Attributes: non-creatable, modifiable
origin-volume		volume-name optional	Name of the origin volume. Attributes: key, non-creatable, non-modifiable
origin-vserver		vserver-name optional	Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **flexcache-origin-connected-cache-info**

[top]

Information of caches connected to the origin When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cache-cluster		cluster-name optional	Name of the cache cluster. Attributes: non-creatable, non-modifiable
cache-volume		volume-name optional	Name of the cache volume. Attributes: key, non-creatable, non-modifiable
cache-vserver		xc-vs-name optional	Name of the cache Vserver. Attributes: key, non-creatable, non-modifiable
origin-volume		volume-name optional	Name of the origin volume. Attributes: key, non-creatable, non-modifiable
origin-vserver		vserver-name optional	Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **space-guarantee-enum**

[top]

none|volume Possible values:

- "none" ,
- "volume"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **xc-vs-name**

[top]

Cross Cluster Vserver Name

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **fpolicy**

fpolicy-create-policy
fpolicy-destroy-policy
fpolicy-disable
fpolicy-disable-policy
fpolicy-enable
fpolicy-enable-policy
fpolicy-extensions
fpolicy-extensions-list-info
fpolicy-get-policy-options
fpolicy-get-required-info
fpolicy-get-secondary-servers-info
fpolicy-list-info
fpolicy-operations-list-set
fpolicy-passthrough-read-connection-get-iter
fpolicy-policy-create
fpolicy-policy-delete
fpolicy-policy-event-create
fpolicy-policy-event-delete
fpolicy-policy-event-get-iter
fpolicy-policy-event-modify
fpolicy-policy-external-engine-create
fpolicy-policy-external-engine-delete
fpolicy-policy-external-engine-get-iter
fpolicy-policy-external-engine-modify
fpolicy-policy-get-iter
fpolicy-policy-modify
fpolicy-policy-scope-create
fpolicy-policy-scope-delete
fpolicy-policy-scope-get-iter
fpolicy-policy-scope-modify
fpolicy-policy-status-get-iter
fpolicy-server-connect
fpolicy-server-disconnect
fpolicy-server-list-info
fpolicy-server-status-get-

This set of APIs enables programmatic control of policy life cycle including: creation, enablement, configuration, monitoring, and deletion. Also, it includes commands for server monitoring and control, as well as notification filtering based on file extension. FPolicy APIs provided for Data ONTAP Clustered-Mode environment enables in creating/modifying/deleting/retrieving following FPolicy entities:

1. Event: This collectively specifies the protocols, fileops, for which notification is generated.

2. Scope: This specifies the scope on which FPolicy will be working on. A scope can be on a volume, share, or a export policy. Scope also contains the file extensions.

3. External-Engine: This specifies the attributes required for a notification to be sent to external FPolicy servers.

4. Policy: Once an event and external engine is created, it can be attached to a policy. A scope has to be defined for a policy before it is enabled to run.

iter
fpolicy-server-stop
fpolicy-set-policy-options
fpolicy-set-required
fpolicy-set-secondary-servers
fpolicy-status
fpolicy-volume-list-info
fpolicy-volume-list-set

fpolicy-create-policy

[top]

Creates a new policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.
policy-type		string	Type of the policy. Possible values: "screen".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-destroy-policy

[top]

Destroys existing policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-disable

[top]

Sets options fpolicy enable to off.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-disable-policy

[top]

Disables a specific named policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ELOWMEMORY	
EPOLICYNOTFOUND	

Vfiler-enabled
Yes

fpolicy-enable

[top]

Sets options fpolicy enable to on. Events on FlexGroup volumes will not notify the FPolicy server

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-enable-policy

[top]

Enables a specific named policy. The operation will fail if the policy doesn't exist.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

sequence-number		integer	Policy Sequence Number

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ELOWMEMORY	
EPOLICYNOTFOUND	

Vfiler-enabled
Yes

fpolicy-extensions

[top]

Manipulates with list of extensions in exclude or include set. Exlude set defines extension patterns that won't trigger fpolicy processing.

Input Name	Range	Type	Description
command		string	Command to be applied on the specified set. Supported values: "add", "remove", "set", "reset".
extensions		extension-list-info[] optional	List of extensions. This element is required if the the command input value is "add", "set" or "remove".
policy-name		string	Name of the policy.
set-name		string	Defines to which set (exclude or include) a command (add, remove, etc) will be applied to. For instance, command = add, set-name = include will add specified list of extensions to the include set. Possible values: "exclude", "include".

Errno	Description
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-extensions-list-info

[top]

Returns information on existing extension sets.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description

exclude-extensions		extension-list-info[]	List of file extensions that are excluded from the file policy.
include-extensions		extension-list-info[]	List of file extensions that are included in the file policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-get-policy-options

[top]

Shows value of policy options.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
is-ads-monitored		boolean optional	Indicator if the policy monitors the cifs operations on Alternate Data Streams.
is-cifs-disconnect-check-enabled		boolean	'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise.
is-cifs-setattr-enabled		boolean	Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened.
is-required		boolean	Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed.
reqcancel-timeout		integer	Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967].
secondary-servers		secondary-server-info[]	List of server's IP addresses. Servers registered from these IP will be considered as secondary servers.
serverprogress-timeout		integer	Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967].

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-get-required-info

[top]

Shows current options for the policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
is-required		boolean	Indicator if the policy is required, i.e. will it fail if the server is not responding. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-get-secondary-servers-info

[top]

Shows current options for the policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
secondary-servers		secondary-server-info[]	List of servers' IP addresses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-list-info

[top]

Returns a list of existing policies.

Input Name	Range	Type	Description
policy-name		string optional	Name of the policy. If this parameter is set, policies will have information pertaining to the policy named. If there is no such a policy, policies will be empty.

Output Name	Range	Type	Description

policies		policy-info[]	List of policies.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-operations-list-set

[top]

Manipulate a list of operations and network protocols for a policy. This determines which user requests cause the filer to notify fpolicy servers for this policy. The list provided will replace the list currently in place, if any. Note that this can be confusing to a server which has already connected to a policy and provided a list of operations. For example, it may have requested notifications when users open files, but start receiving notifications when users create symlinks. This API is provided in support of "native file blocking" in which there is no server connected to the filer for a policy. Note that it is possible to get the list of operations and protocols currently set for a policy with the fpolicy-list-info API.

Input Name	Range	Type	Description
force		boolean optional	If a server is connected to the filer and has already set the list of operations, should this API override the server's setting? If "force" is "true", the policy's set of operations will be dropped and replaced with the values provided by this API. Default value is false.
monitored-operations		monitored-operation-info[]	List of operations related values.
monitored-protocols		monitored-protocol-info[]	List of protocol related values.
offline-only		boolean optional	Sets the state of offline filtering. If offline filtering is set, then only user requests for files which are marked "offline" cause notifications. Default value is false.
policy-name		string	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-passthrough-read-connection-get-iter

[top]

Returns passthrough-read connection status information.

Input Name	Range	Type	Description

desired-attributes		fpolicy-passthrough-read-connection-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-passthrough-read-connection-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-passthrough-read-connection object. All fpolicy-passthrough-read-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-passthrough-read-connection-info[] optional	The list of attributes of fpolicy-passthrough-read-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-passthrough-read-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ESERVERNOTFOUND	
ENODENOTFOUND	
EPOLICYNOTFOUND	

fpolicy-policy-create

[top]

Create a policy.

Input Name	Range	Type	Description
allow-privileged-access		boolean optional	Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no.
engine-name		engine-name	Name of the Engine. Default Engine is 'native'.
events		event-name[]	Events for file access monitoring.
			Indicator if the screening with this policy is required, i.e. it will fail if no

is-mandatory		boolean optional	servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true.
is-passthrough-read-enabled		boolean optional	Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false.
policy-name		policy-name	Name of the policy.
privileged-user-name		string optional	User name for privileged access. No default value is set for this attribute.
return-record		boolean optional	If set to true, returns the fpolicy-policy on successful creation. Default: false

Output Name	Range	Type	Description
result		fpolicy-policy-info optional	The fpolicy-policy created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYEXISTS	
EEVENTNOTFOUND	
EENGINENOTFOUND	
E_PASSTHRU_READ_ENABLE_IN_POLICY	
E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED	

fpolicy-policy-delete

[top]

Delete a policy.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	

fpolicy-policy-event-create

[top]

Create FPolicy Event.

Input Name	Range	Type	Description
event-name		event-name	Name of the Event.
file-operations		fpolicy-operation[] optional	Name of file operations. By default no operations are monitored. Possible values: • "close" - File close operation, • "create" - File create operation, • "create_dir" - File create directory operation, • "delete" - File delete operation, • "delete_dir" - Directory delete operation, • "getattr" - Get attribute operation, • "link" - Link operation, • "lookup" - Lookup operation, • "open" - File open operation, • "read" - File read operation, • "write" - File write operation, • "rename" - File rename operation, • "rename_dir" - Directory rename operation, • "setattr" - Set attribute operation, • "symlink" - Symbolic link operation, • "access" - Access operation
filter-string		fpolicy-filter[] optional	Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values: • "monitor_ads" - Monitor alternate data stream, • "close_with_modification" - Filter close with modification, • "close_without_modification" - Filter close without modification, • "first_read" - Filter first read, • "first_write" - Filter first write, • "offline_bit" - Filter offline bit set, • "open_with_delete_intent" - Filter open with delete intent, • "open_with_write_intent" - Filter open with write intent, • "write_with_size_change" - Filter write with size change, • "close_with_read" - Filter close with read, • "setattr_with_owner_change" - Filter file owner change, • "setattr_with_group_change" - Filter file group change, • "setattr_with_sacl_change" - Filter file sacl change, • "setattr_with_dacl_change" - Filter file dacl change, • "setattr_with_modify_time_change" - Filter file modify time change, • "setattr_with_access_time_change" - Filter file access time change, • "setattr_with_creation_time_change" - Filter file creation time change, • "setattr_with_mode_change" - Filter file mode change, • "setattr_with_size_change" - Filter file size change, • "setattr_with_allocation_size_change" - Filter allocation size change, • "exclude_directory" - Filter to exclude directory operations
monitor-fileop-failure		boolean optional	Indicator if the failed file operation notification required for the event. Default Value is false.
protocol		fpolicy-proto optional	Name of protocol for which event is created. By default no protocol is selected. Possible values: • "cifs" - CIFS protocol,

			• "nfsv3" - NFSv3 protocol, • "nfsv4" - NFSv4 protocol
return-record		boolean optional	If set to true, returns the fpolicy-policy-event on successful creation. Default: false
volume-operation		boolean optional	Indicator if the volume operation required for the event. Default Value is false.

Output Name	Range	Type	Description
result		fpolicy-event-options-config optional	The fpolicy-policy-event created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTEXISTS	

fpolicy-policy-event-delete

[top]

Delete FPolicy event.

Input Name	Range	Type	Description
event-name		event-name	Name of the Event.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTNOTFOUND	

fpolicy-policy-event-get-iter

[top]

Get a list of rows for FPolicy event options. FPolicy event is consist of protocol, file operations, vo lume operation and filters.

Input Name	Range	Type	Description
desired-attributes		fpolicy-event-options-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		fpolicy-event-	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-event

query		options-config optional	object. All fpolicy-policy-event objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-event-options-config[] optional	The list of attributes of fpolicy-policy-event objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-event objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTNOTFOUND	

fpolicy-policy-event-modify

[top]

Set FPolicy event options. FPolicy event includes consist of protocol, file operation, volume operation, f ilters and monitor failure option.

Input Name	Range	Type	Description
event-name		event-name	Name of the Event.
file-operations		fpolicy-operation[] optional	Name of file operations. By default no operations are monitored. Possible values: • "close" - File close operation, • "create" - File create operation, • "create_dir" - File create directory operation, • "delete" - File delete operation, • "delete_dir" - Directory delete operation, • "getattr" - Get attribute operation, • "link" - Link operation, • "lookup" - Lookup operation, • "open" - File open operation, • "read" - File read operation, • "write" - File write operation, • "rename" - File rename operation, • "rename_dir" - Directory rename operation, • "setattr" - Set attribute operation, • "symlink" - Symbolic link operation, • "access" - Access operation
			Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values:

filter-string		fpolicy-filter[] optional	• "monitor_ads" - Monitor alternate data stream, • "close_with_modification" - Filter close with modification, • "close_without_modification" - Filter close without modification, • "first_read" - Filter first read, • "first_write" - Filter first write, • "offline_bit" - Filter offline bit set, • "open_with_delete_intent" - Filter open with delete intent, • "open_with_write_intent" - Filter open with write intent, • "write_with_size_change" - Filter write with size change, • "close_with_read" - Filter close with read, • "setattr_with_owner_change" - Filter file owner change, • "setattr_with_group_change" - Filter file group change, • "setattr_with_sacl_change" - Filter file sacl change, • "setattr_with_dacl_change" - Filter file dacl change, • "setattr_with_modify_time_change" - Filter file modify time change, • "setattr_with_access_time_change" - Filter file access time change, • "setattr_with_creation_time_change" - Filter file creation time change, • "setattr_with_mode_change" - Filter file mode change, • "setattr_with_size_change" - Filter file size change, • "setattr_with_allocation_size_change" - Filter allocation size change, • "exclude_directory" - Filter to exclude directory operations
monitor-fileop-failure		boolean optional	Indicator if the failed file operation notification required for the event. Default Value is false.
protocol		fpolicy-proto optional	Name of protocol for which event is created. By default no protocol is selected. Possible values: • "cifs" - CIFS protocol, • "nfsv3" - NFSv3 protocol, • "nfsv4" - NFSv4 protocol
volume-operation		boolean optional	Indicator if the volume operation required for the event. Default Value is false.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EEVENTNOTFOUND	

fpolicy-policy-external-engine-create

[top]

Create an external engine.

Input Name	Range	Type	Description
certificate-ca		string optional	Certificate authority name. No default value is set for this field.
certificate-common-		common-name	FQDN or custom common name of certificate. No default value is

name		optional	set for this field.
certificate-serial		string optional	Serial number of certificate. No default value is set for this field.
engine-name		engine-name	Name of the external engine.
extern-engine-format		external-engine-format optional	External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values: • "xml" - XML Format, • "protobuf" - Protobuf Format
extern-engine-type		external-engine-type optional	External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values: • "synchronous" - Synchronous External Engine, • "asynchronous" - Asynchronous External Engine
is-resiliency-enabled		boolean optional	Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false.
keep-alive-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds.
max-connection-retries	**[0..2^32-1]**	integer optional	Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5.
max-server-requests	**[0..2^32-1]**	integer optional	Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50.
port-number	**[1..65535]**	integer	Port number of the FPolicy server application.
primary-servers		ip-address[]	Primary FPolicy servers.
recv-buffer-size	**[0..2^32-1]**	integer optional	Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
request-abort-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds.
request-cancel-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds.
resiliency-directory-path		string optional	Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications.
resiliency-max-retention-duration		time-interval optional	Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds.
return-record		boolean optional	If set to true, returns the fpolicy-policy-external-engine on successful creation. Default: false

secondary-servers		ip-address[] optional	Secondary FPolicy servers. No default value is set for this field.
send-buffer-size	**[0..2^32-1]**	integer optional	Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
server-progress-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds.
session-timeout		time-interval optional	Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds.
ssl-option		fpolicy-ssl-opts	SSL option for external communication. No default value is set for this field. Possible values: • "no_auth" - Communication over TCP, • "server_auth" - Authentication of FPolicy server only, • "mutual_auth" - Mutual authentication of storage system and FPolicy server
status-request-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds.

Output Name	Range	Type	Description
result		fpolicy-external-engine-info optional	The fpolicy-policy-external-engine created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINEEXISTS	
ESERVEREXISTS	

fpolicy-policy-external-engine-delete

[top]

Delete an external engine.

Input Name	Range	Type	Description
engine-name		engine-name	Name of the external engine.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINENOTFOUND	
EPOLICYNOTFOUND	

Errno	Description
ERESOURCEINUSE	

fpolicy-policy-external-engine-get-iter

[top]

Returns information on external engines.

Input Name	Range	Type	Description
desired-attributes		fpolicy-external-engine-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-external-engine-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-external-engine object. All fpolicy-policy-external-engine objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-external-engine-info[] optional	The list of attributes of fpolicy-policy-external-engine objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-external-engine objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINENOTFOUND	

fpolicy-policy-external-engine-modify

[top]

Modify an external engine. External engine can be modified only when none of the enabled policies are using it.

Input Name	Range	Type	Description
certificate-ca		string optional	Certificate authority name. No default value is set for this field.

certificate-common-name		common-name optional	FQDN or custom common name of certificate. No default value is set for this field.
certificate-serial		string optional	Serial number of certificate. No default value is set for this field.
engine-name		engine-name	Name of the external engine.
extern-engine-format		external-engine-format optional	External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values: • "xml" - XML Format, • "protobuf" - Protobuf Format
extern-engine-type		external-engine-type optional	External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values: • "synchronous" - Synchronous External Engine, • "asynchronous" - Asynchronous External Engine
is-resiliency-enabled		boolean optional	Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false.
keep-alive-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds.
max-connection-retries	**[0..2^32-1]**	integer optional	Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5.
max-server-requests	**[0..2^32-1]**	integer optional	Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50.
port-number	**[1..65535]**	integer optional	Port number of the FPolicy server application.
primary-servers		ip-address[] optional	Primary FPolicy servers.
recv-buffer-size	**[0..2^32-1]**	integer optional	Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
request-abort-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds.
request-cancel-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds.
resiliency-directory-path		string optional	Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications.
resiliency-max-		time-interval	Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be

retention-duration		optional	stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds.
secondary-servers		ip-address[] optional	Secondary FPolicy servers. No default value is set for this field.
send-buffer-size	**[0..2^32-1]**	integer optional	Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb).
server-progress-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds.
session-timeout		time-interval optional	Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds.
ssl-option		fpolicy-ssl-opts optional	SSL option for external communication. No default value is set for this field. Possible values: • "no_auth" - Communication over TCP, • "server_auth" - Authentication of FPolicy server only, • "mutual_auth" - Mutual authentication of storage system and FPolicy server
status-request-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EENGINENOTFOUND	
E_FPOLICY_EXT_ENG_MODIFY_FAILED_ENABLED_POLICY	
E_PASSTHRU_READ_MODIFY_EXT_ENGINE	
ESERVEREXISTS	

fpolicy-policy-get-iter

[top]

Returns information about policies.

Input Name	Range	Type	Description
desired-attributes		fpolicy-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy object. All fpolicy-policy objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-policy-info[] optional	The list of attributes of fpolicy-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	

fpolicy-policy-modify

[top]

Modify a policy.

Input Name	Range	Type	Description
allow-privileged-access		boolean optional	Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no.
engine-name		engine-name optional	Name of the Engine. Default Engine is 'native'.
events		event-name[] optional	Events for file access monitoring.
is-mandatory		boolean optional	Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true.
is-passthrough-read-enabled		boolean optional	Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false.
policy-name		policy-name	Name of the policy.
privileged-user-name		string optional	User name for privileged access. No default value is set for this attribute.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	
E_PASSTHRU_READ_ENABLE_IN_POLICY	

E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED	

fpolicy-policy-scope-create

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

Input Name	Range	Type	Description
check-extensions-on-directories		boolean optional	Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise.
export-policies-to-exclude		string[] optional	Export Policies to exclude for file access monitoring. By default no export policy is selected.
export-policies-to-include		string[] optional	Export policies to include for file access monitoring. By default no export policy is selected.
file-extensions-to-exclude		string[] optional	File extensions excluded for screening. By default no file extension is selected.
file-extensions-to-include		string[] optional	File extensions included for screening. By default no file extension is selected.
is-monitoring-of-objects-with-no-extension-enabled		boolean optional	Indicates whether monitoring of Objects with no extension is required. By default, the value is false.
policy-name		policy-name	Name of the policy.
return-record		boolean optional	If set to true, returns the fpolicy-policy-scope on successful creation. Default: false
shares-to-exclude		string[] optional	Shares to exclude for file access monitoring. By default no share is selected.
shares-to-include		string[] optional	Shares to include for file access monitoring. By default no share is selected.
volumes-to-exclude		string[] optional	Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected.
volumes-to-include		string[] optional	Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected.

Output Name	Range	Type	Description
result		fpolicy-scope-config optional	The fpolicy-policy-scope created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ESCOPEEXISTS	

fpolicy-policy-scope-delete

[top]

Delete a scope.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.

Errno	Description
ESCOPENOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

fpolicy-policy-scope-get-iter

[top]

Get a list of rows for FPolicy scope options. FPolicy Scope consists of share, volume, export policy, volume, file extention.

Input Name	Range	Type	Description
desired-attributes		fpolicy-scope-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-scope-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-scope object. All fpolicy-policy-scope objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-scope-config[] optional	The list of attributes of fpolicy-policy-scope objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-scope objects to return.
num-records	[0..2^32-	integer	The number of records returned in this call.

	1]		

Errno	Description
ESCOPENOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

fpolicy-policy-scope-modify

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

Input Name	Range	Type	Description
check-extensions-on-directories		boolean optional	Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise.
export-policies-to-exclude		string[] optional	Export Policies to exclude for file access monitoring. By default no export policy is selected.
export-policies-to-include		string[] optional	Export policies to include for file access monitoring. By default no export policy is selected.
file-extensions-to-exclude		string[] optional	File extensions excluded for screening. By default no file extension is selected.
file-extensions-to-include		string[] optional	File extensions included for screening. By default no file extension is selected.
is-monitoring-of-objects-with-no-extension-enabled		boolean optional	Indicates whether monitoring of Objects with no extension is required. By default, the value is false.
policy-name		policy-name	Name of the policy.
shares-to-exclude		string[] optional	Shares to exclude for file access monitoring. By default no share is selected.
shares-to-include		string[] optional	Shares to include for file access monitoring. By default no share is selected.
volumes-to-exclude		string[] optional	Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected.
volumes-to-include		string[] optional	Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected.

Errno	Description

ESCOPENOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

fpolicy-policy-status-get-iter

[top]

Returns FPolicy policy status information.

Input Name	Range	Type	Description
desired-attributes		fpolicy-policy-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-policy-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-status object. All fpolicy-policy-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-policy-status-info[] optional	The list of attributes of fpolicy-policy-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-policy-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	

fpolicy-server-connect

[top]

Make a connection to FPolicy server

Input Name	Range	Type	Description

node		string	Cluster node name.
policy-name		policy-name	Name of the policy.
server		ip-address	FPolicy server.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	
ESERVERNOTFOUND	
E_POLICY_DISABLED	

fpolicy-server-disconnect

[top]

Terminate connection to FPolicy server

Input Name	Range	Type	Description
node		string	Cluster node name.
policy-name		policy-name	Name of the policy.
server		ip-address	FPolicy server.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EPOLICYNOTFOUND	
ESERVERNOTFOUND	
E_POLICY_DISABLED	

fpolicy-server-list-info

[top]

Shows a list of primary servers serving the policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
servers		server-info[]	List of the servers' IP addresses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled

Yes

fpolicy-server-status-get-iter

[top]

Returns FPolicy server status information.

Input Name	Range	Type	Description
desired-attributes		fpolicy-server-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		fpolicy-server-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-server-status object. All fpolicy-server-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		fpolicy-server-status-info[] optional	The list of attributes of fpolicy-server-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more fpolicy-server-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ESERVERNOTFOUND	
ENODENOTFOUND	
EPOLICYNOTFOUND	

fpolicy-server-stop

[top]

Stops specific primary server serving the policy. Effectively, this will unregister the fpolicy server.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

server-ip		ip-address	The ip address, in dotted-decimal format, of the server.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-set-policy-options

[top]

Sets policy's options to on/off.

Input Name	Range	Type	Description
is-ads-monitored		boolean optional	Indicates if the policy monitors the cifs operations on Alternate Data Streams. Default is false.
is-cifs-disconnect-check-enabled		boolean optional	'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise.
is-cifs-setattr-enabled		boolean optional	Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened. Default is false.
is-required		boolean optional	Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default is false.
policy-name		string	Name of the policy.
reqcancel-timeout		integer optional	Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967].
secondary-servers		secondary-server-info[] optional	List of server's IP addresses. Servers registered from these IP will be considered as secondary servers.
serverprogress-timeout		integer optional	Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967].

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-set-required

[top]

Sets policy's "required" option to on/off.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.
required		boolean	Indicator if the policy is required. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-set-secondary-servers

[top]

Sets secondary servers information in a form of a list of ip addresses. These servers will be used if all primary servers are not available, thus increasing system availabilty.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.
secondary-servers		secondary-server-info[]	List of servers' IP addresses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-status

[top]

Returns status of options fpolicy enable.

Output Name	Range	Type	Description
is-enabled		boolean	Shows if the fpolicy mechanism is enabled or not.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-volume-list-info

[top]

Returns a volume-regular-expression list for an exclude or include set. The list describes limits to the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy.

Input Name	Range	Type	Description
policy-name		string	Name of the policy.

Output Name	Range	Type	Description
exclude-volumes		fpolicy-volumes-list-info[]	List of volumes that are inactive for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?". Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests.
include-volumes		fpolicy-volumes-list-info[]	List of volumes that are active for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?".

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

fpolicy-volume-list-set

[top]

Manipulate a list of volumes in an exclude or include set. This limits the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy. The list provided will replace the list currently in place, if any. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer.

Input Name	Range	Type	Description
list-type		string	Defines to which set (exclude or include) a list will be applied. Possible values: "exclude", "include".
policy-name		string	Name of the policy.
volumes		fpolicy-volumes-list-info[]	List of volume specifications.

Errno	Description
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EINTERNALERROR	

Vfiler-enabled
Yes

[top]

Element definition: **common-name**

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **engine-name** [top]

Engine name

[none]

Element definition: **event-name** [top]

Event name

[none]

Element definition: **extension-list-info** [top]

Structure containing extension information.

Name	Range	Type	Description
name-spec		string	Extension specification (including wild cards). Allowed are only DOS like, three character long extensions. The extensions are case insensitive. Supported wild card values: "???" to match any extension and "?" to match any character. Examples of allowed extension specifications: EXE ??? ?XT P??

Element definition: **external-engine-format** [top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

Element definition: **external-engine-type** [top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

Element definition: **fpolicy-event-options-config**

[top]

Vserver FPolicy Event configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event-name		event-name optional	Name of the Event. Attributes: key, required-for-create, non-modifiable
file-operations		fpolicy-operation[] optional	Name of file operations. By default no operations are monitored. Attributes: optional-for-create, modifiable Possible values: • "close" - File close operation, • "create" - File create operation, • "create_dir" - File create directory operation, • "delete" - File delete operation, • "delete_dir" - Directory delete operation, • "getattr" - Get attribute operation, • "link" - Link operation, • "lookup" - Lookup operation, • "open" - File open operation, • "read" - File read operation, • "write" - File write operation, • "rename" - File rename operation, • "rename_dir" - Directory rename operation, • "setattr" - Set attribute operation, • "symlink" - Symbolic link operation, • "access" - Access operation
			Name of filters. It is notification filtering parameters. By default no filters are selected. Attributes: optional-for-create, modifiable Possible values: • "monitor_ads" - Monitor alternate data stream, • "close_with_modification" - Filter close with modification, • "close_without_modification" - Filter close without modification, • "first_read" - Filter first read, • "first_write" - Filter first write, • "offline_bit" - Filter offline bit set, • "open_with_delete_intent" - Filter open with delete intent,

filter-string		fpolicy-filter[] optional	• "open_with_write_intent" - Filter open with write intent, • "write_with_size_change" - Filter write with size change, • "close_with_read" - Filter close with read, • "setattr_with_owner_change" - Filter file owner change, • "setattr_with_group_change" - Filter file group change, • "setattr_with_sacl_change" - Filter file sacl change, • "setattr_with_dacl_change" - Filter file dacl change, • "setattr_with_modify_time_change" - Filter file modify time change, • "setattr_with_access_time_change" - Filter file access time change, • "setattr_with_creation_time_change" - Filter file creation time change, • "setattr_with_mode_change" - Filter file mode change, • "setattr_with_size_change" - Filter file size change, • "setattr_with_allocation_size_change" - Filter allocation size change, • "exclude_directory" - Filter to exclude directory operations
monitor-fileop-failure		boolean optional	Indicator if the failed file operation notification required for the event. Default Value is false. Attributes: optional-for-create, modifiable
protocol		fpolicy-proto optional	Name of protocol for which event is created. By default no protocol is selected. Attributes: optional-for-create, modifiable Possible values: • "cifs" - CIFS protocol, • "nfsv3" - NFSv3 protocol, • "nfsv4" - NFSv4 protocol
volume-operation		boolean optional	Indicator if the volume operation required for the event. Default Value is false. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-external-engine-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-ca		string optional	Certificate authority name. No default value is set for this field. Attributes: optional-for-create, modifiable
certificate-common-name		common-name optional	FQDN or custom common name of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable
certificate-serial		string optional	Serial number of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable

engine-name		engine-name optional	Name of the external engine. Attributes: key, required-for-create, non-modifiable
extern-engine-format		external-engine-format optional	External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Attributes: optional-for-create, modifiable Possible values: • "xml" - XML Format, • "protobuf" - Protobuf Format
extern-engine-type		external-engine-type optional	External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Attributes: optional-for-create, modifiable Possible values: • "synchronous" - Synchronous External Engine, • "asynchronous" - Asynchronous External Engine
is-resiliency-enabled		boolean optional	Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. Attributes: optional-for-create, modifiable
keep-alive-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable
max-connection-retries	**[0..2^32-1]**	integer optional	Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. Attributes: optional-for-create, modifiable
max-server-requests	**[0..2^32-1]**	integer optional	Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. Attributes: optional-for-create, modifiable
port-number	**[1..65535]**	integer optional	Port number of the FPolicy server application. Attributes: required-for-create, modifiable
primary-servers		ip-address[] optional	Primary FPolicy servers. Attributes: required-for-create, modifiable
recv-buffer-size	**[0..2^32-1]**	integer optional	Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable
request-abort-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. Attributes: optional-for-create, modifiable
request-cancel-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. Attributes: optional-for-create, modifiable
resiliency-directory-path		string optional	Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. Attributes: optional-for-create, modifiable
resiliency-max-		time-interval	Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum

retention-duration		optional	retention duration can be 600 seconds. Attributes: optional-for-create, modifiable
secondary-servers		ip-address[] optional	Secondary FPolicy servers. No default value is set for this field. Attributes: optional-for-create, modifiable
send-buffer-size	**[0..2^32-1]**	integer optional	Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable
server-progress-timeout	**[0..2^32-1]**	integer optional	Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds. Attributes: optional-for-create, modifiable
session-timeout		time-interval optional	Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable
ssl-option		fpolicy-ssl-opts optional	SSL option for external communication. No default value is set for this field. Attributes: required-for-create, modifiable Possible values: • "no_auth" - Communication over TCP, • "server_auth" - Authentication of FPolicy server only, • "mutual_auth" - Mutual authentication of storage system and FPolicy server
status-request-interval	**[0..2^32-1]**	integer optional	Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-filter**

[top]

Filter Possible values:

- "monitor_ads" - Monitor alternate data stream,
- "close_with_modification" - Filter close with modification,
- "close_without_modification" - Filter close without modification,
- "first_read" - Filter first read,
- "first_write" - Filter first write,
- "offline_bit" - Filter offline bit set,
- "open_with_delete_intent" - Filter open with delete intent,
- "open_with_write_intent" - Filter open with write intent,
- "write_with_size_change" - Filter write with size change,
- "close_with_read" - Filter close with read,
- "setattr_with_owner_change" - Filter file owner change,
- "setattr_with_group_change" - Filter file group change,
- "setattr_with_sacl_change" - Filter file sacl change,
- "setattr_with_dacl_change" - Filter file dacl change,
- "setattr_with_modify_time_change" - Filter file modify time change,
- "setattr_with_access_time_change" - Filter file access time change,
- "setattr_with_creation_time_change" - Filter file creation time change,
- "setattr_with_mode_change" - Filter file mode change,
- "setattr_with_size_change" - Filter file size change,
- "setattr_with_allocation_size_change" - Filter allocation size change,

- "exclude_directory" - Filter to exclude directory operations

[none]

Element definition: **fpolicy-operation**

[top]

File Operation Possible values:

- "close" - File close operation,
- "create" - File create operation,
- "create_dir" - File create directory operation,
- "delete" - File delete operation,
- "delete_dir" - Directory delete operation,
- "getattr" - Get attribute operation,
- "link" - Link operation,
- "lookup" - Lookup operation,
- "open" - File open operation,
- "read" - File read operation,
- "write" - File write operation,
- "rename" - File rename operation,
- "rename_dir" - Directory rename operation,
- "setattr" - Set attribute operation,
- "symlink" - Symbolic link operation,
- "access" - Access operation

[none]

Element definition: **fpolicy-passthrough-read-connection-info**

[top]

FPolicy passthrough-read connection status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connected-since		datetime optional	Date and time since passthrough-read channel is connected. This will be returned only if the server-status is connected. Attributes: non-creatable, non-modifiable
control-session-id		string optional	Session ID of the control channel established with FPolicy server. Attributes: key, non-creatable, non-modifiable
			Reason for passthrough-read channel disconnection. Attributes: non-creatable, non-modifiable Possible values: • "none" - Not applicable, • "control_conn_closed" - Control connection to the FPOlicy

disconnect-reason		fpolicy-passthru-disconnect-reason optional	server is closed, • "pipe_client_close" - Connection closed by pipe client (FPolicy server), • "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc., • "no_control_packet" - No control packet seen on this connection, • "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip, • "fpolicy_process_restart" - FPolicy process has restarted
disconnected-since		datetime optional	Date and time since passthrough-read channel is disconnected. This will be returned only if the server-status is disconnected. Attributes: non-creatable, non-modifiable
fpolicy-server		ip-address optional	IP Address of the FPolicy server. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
policy-name		policy-name optional	Policy name of the policy for which passthrough-read connection is opened. Attributes: key, non-creatable, non-modifiable
server-status		fpolicy-passthru-conn-status optional	Status of the passthrough-read connection. Attributes: non-creatable, non-modifiable Possible values: • "connected" - Passthrough read channel connected, • "disconnected" - Passtthrough read channel disconnected
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-policy-info**

[top]

FPolicy policy information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allow-privileged-access		boolean optional	Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. Attributes: optional-for-create, modifiable
engine-name		engine-name optional	Name of the Engine. Default Engine is 'native'. Attributes: required-for-create, modifiable
events		event-name[] optional	Events for file access monitoring. Attributes: required-for-create, modifiable
		boolean	Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external

is-mandatory		optional	engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. Attributes: optional-for-create, modifiable
is-passthrough-read-enabled		boolean optional	Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. Attributes: optional-for-create, modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, required-for-create, non-modifiable
privileged-user-name		string optional	User name for privileged access. No default value is set for this attribute. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-policy-status-info**

[top]

FPolicy Policy status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
policy-name		policy-name optional	Name of the policy. Attributes: key, non-creatable, non-modifiable
sequence-number	**[1..10]**	integer optional	Sequence number(or priority) of the policy. 1 being highest and 10 being smallest. Default value is 1. Attributes: non-creatable, non-modifiable
status		boolean optional	Status of the policy. When on, policy is active. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-proto**

[top]

Protocol Possible values:

- "cifs" - CIFS protocol,
- "nfsv3" - NFSv3 protocol,
- "nfsv4" - NFSv4 protocol

[none]

Element definition: **fpolicy-scope-config**

[top]

Vserver FPolicy Scope configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
check-extensions-on-directories		boolean optional	Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. Attributes: optional-for-create, modifiable
export-policies-to-exclude		string[] optional	Export Policies to exclude for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable
export-policies-to-include		string[] optional	Export policies to include for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable
file-extensions-to-exclude		string[] optional	File extensions excluded for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable
file-extensions-to-include		string[] optional	File extensions included for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable
is-monitoring-of-objects-with-no-extension-enabled		boolean optional	Indicates whether monitoring of Objects with no extension is required. By default, the value is false. Attributes: optional-for-create, modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, required-for-create, non-modifiable
shares-to-exclude		string[] optional	Shares to exclude for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable
shares-to-include		string[] optional	Shares to include for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable
volumes-to-exclude		string[] optional	Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. Attributes: optional-for-create, modifiable
volumes-to-include		string[] optional	Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-server-status-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connected-since		datetime optional	Date and time since FPolicy server is connected. Attributes: non-creatable, non-modifiable
disconnect-reason		string optional	Reason for FPolicy server disconnection. Attributes: non-creatable, non-modifiable
disconnected-since		datetime optional	Date and time since FPolicy server is disconnected. Attributes: non-creatable, non-modifiable
fpolicy-server		ip-address optional	FPolicy server. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Cluster node name. Attributes: key, non-creatable, non-modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, non-creatable, non-modifiable
server-status		fpolicy-server-status optional	Status of the connection. Attributes: non-creatable, non-modifiable Possible values: • "connected" - Server Connected, • "disconnected" - Server Disconnected, • "connecting" - Connecting Server, • "disconnecting" - Disconnecting Server
server-type		fpolicy-server-type optional	FPolicy server type. FPolicy server can be registered as primary or secondary server. Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary Server, • "secondary" - Secondary Server
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **fpolicy-ssl-opts**

[top]

no-auth|server-auth|mutual-auth Possible values:

- "no_auth" - Communication over TCP,

"server_auth" - Authentication of FPolicy server only,
- "mutual_auth" - Mutual authentication of storage system and FPolicy server

[none]

Element definition: **fpolicy-volumes-list-info**

[top]

Structure containing volumes information.

Name	Range	Type	Description
volume-spec		string	Volume specification (including wild cards). The volumes are case insensitive. If no volume-spec is provided, then the list will be reset to an empty list. Supported wild card values: "?" to match any character and "*" to match any number of characters. Example specifications: vol0 vol? users*

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

Name	Range	Type	Description
operation		string	Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink"

Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

Name	Range	Type	Description
protocol		string	Supported values: "nfs", "cifs".

Element definition: **policy-info**

[top]

Structure containing information pertaining to policy.

Name	Range	Type	Description
is-ads-monitored		boolean	True if the policy monitors the cifs operations on Alternate Data Streams.
is-enabled		boolean	True if the policy is enabled. No matter whether the policy is enabled or disabled, values returned in other elements for the policy are always valid.
is-i2p-enabled		boolean	True if inode to pathname translation for NFS requests is supported and enabled.If enabled fpolicy requests to fpolicy server will carry full file path for NFS requests. The fields which will carry full file path are AccessPath and RenamePath for FP_ScreenRequest RPC call and sr_accesspath for FP_ScreenRequest2 RPC call.
is-offline-files-only		boolean optional	True if the file policy monitors only offlines files. Default is false.
monitored-operations		monitored-operation-info[]	List of monitored operations.
monitored-protocols		monitored-protocol-info[]	List of monitored protocols.
name		string	Policy name.
number-of-requests-blocked-locally		integer	Number of locally blocked(denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1].
number-of-screen-failures		integer	Number of failed (denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1].
number-of-screened-files		integer	Number of screened files since policy has been enabled. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1].

Element definition: **policy-name**

[top]

Policy name

[none]

Element definition: **secondary-server-info**

[top]

Structure containing information pertaining to secondary servers.

Name	Range	Type	Description
server-ip		ip-address	The ip address, in dotted-decimal format, of the server.

Element definition: **server-info**

[top]

Structure containing information pertaining to servers.

Name	Range	Type	Description
idl-version		integer	Version of the Interface Definition Language(IDL) used by the Fpolicy server. Range : [0..2^32-1].
is-asynchronous		boolean optional	Shows if the server is registered as asynchronous, i.e. doesn't send reply to the filer.
is-size-and-owner-required		boolean optional	True if the server is registered to receive file size and file owner information with every Fpolicy request.
is-snapid-required		boolean optional	True if the server is registered to receive file snapshot ID with every Fpolicy request.
is-version2		boolean optional	True if the server is registered with version2 support enabled. version2 refers to the version of the FP_ScreenRequest(). When version2 is true the FPolicy server is enabled to receive FP_ScreenRequest2() RPC.
number-of-screen-failures		integer	Number of failed (denied) screens since server registrations. Range : [0..2^32-1].
number-of-screened-files		integer	Number of screened files since server registration. Range : [0..2^32-1].
offline-filter-bit		string optional	Shows the setting of offline filter. Supported values: "none", "on-set".
server-id		integer	The unique server ID assigned to the Fpolicy server at the time of Fpolicy server registration. Range : [0..2^32-1].
server-ip		ip-address	The ip address, in dotted-decimal format, of the server.
smb-req-pipe-name		string	The name of the FPolicy request pipe name on which FPolicy server is recieving the screen requests from the storage system. This name is sent by the FPolicy server at the time of the FPolicy server registration.

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **engine-name** [top]

Engine name

[none]

Element definition: **event-name** [top]

Event name

[none]

Element definition: **external-engine-format** [top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

Element definition: **external-engine-type** [top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

Element definition: **fpolicy-passthru-conn-status** [top]

Status of fpolicy passthrough-read connection Possible values:

- "connected" - Passthrough read channel connected,
- "disconnected" - Passtthrough read channel disconnected

[none]

Element definition: **fpolicy-passthru-disconnect-reason**

[top]

Reason for fpolicy passthrough-read disconnection Possible values:

- "none" - Not applicable,
- "control_conn_closed" - Control connection to the FPOlicy server is closed,
- "pipe_client_close" - Connection closed by pipe client (FPolicy server),
- "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc.,
- "no_control_packet" - No control packet seen on this connection,
- "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip,
- "fpolicy_process_restart" - FPolicy process has restarted

[none]

Element definition: **fpolicy-server-status**

[top]

Status Possible values:

- "connected" - Server Connected,
- "disconnected" - Server Disconnected,
- "connecting" - Connecting Server,
- "disconnecting" - Disconnecting Server

[none]

Element definition: **fpolicy-server-type**

[top]

Server Type Possible values:

- "primary" - Primary Server,
- "secondary" - Secondary Server

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

Name	Range	Type	Description
operation		string	Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink"

Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

Name	Range	Type	Description
protocol		string	Supported values: "nfs", "cifs".

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **gpo**

gpo-applied-info-get-iter
gpo-get-iter
gpo-gpresult-info-get-iter
gpo-modify
gpo-restricted-group-applied-info-get-iter
gpo-restricted-group-defined-info-get-iter
gpo-update

Group Policy Object (GPO) configuration APIs. Group Policy is a central component of Microsoft's change and configuration strategy for Win2K. With Group Policy, you can define users' environments and system configurations from one location. It is implemented by associating a Group Policy Object (GPO) with an Active Directory container. A GPO is a collection of attribute settings that govern a user or a computer's configuration. These APIs enable user to obtain the values associated with the following GPO entities:

1. Vserver GPO gpresult Information: The resultant GPO information. This api displays RSoP(Resultant Set of Policy) that is defined on Active Directory for a CIFS-enabled VServer.

2. Vserver Applied GPO Information: The applied GPO Information. This api displays the set of GPO policy that has been applied on a CIFS-enabled Vserver.

gpo-applied-info-get-iter

[top]

Get the list of entries of the applied GPO rules, organized on a per-Vserver basis.

Input Name	Range	Type	Description
desired-attributes		gpo-applied-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-applied-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-applied-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description

EINTERNALERROR	

gpo-get-iter

[top]

Retrieve the Vserver's group policy configuration.

Input Name	Range	Type	Description
desired-attributes		gpo-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-config optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-config[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

gpo-gpresult-info-get-iter

[top]

Get a list of entries of the GPO RSoP(Resultant Set of Policy) data, organized on a per-Vserver basis.

Input Name	Range	Type	Description
desired-attributes		gpo-gpresult-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-gpresult-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-gpresult-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

gpo-modify

[top]

Change the Vserver's group policy configuration.

Input Name	Range	Type	Description
is-gpo-enabled		true-false	Group Policy Zapi Status.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

gpo-restricted-group-applied-info-get-iter

[top]

Applied Restricted Group Settings

Input Name	Range	Type	Description
desired-attributes		gpo-restricted-group-applied-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-restricted-group-applied-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.

		optional	
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-restricted-group-applied-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

gpo-restricted-group-defined-info-get-iter

[top]

Defined Restricted Group Settings in DC

Input Name	Range	Type	Description
desired-attributes		gpo-restricted-group-defined-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		gpo-restricted-group-defined-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		gpo-restricted-group-defined-info[] optional	The list of attributes of gpo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more gpo objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

gpo-update

[top]

Download and apply the latest version of the group policy defined in Active Directory.

Input Name	Range	Type	Description
force-reapply-all-settings		boolean optional	Ignores all processing optimizations and re-applies all settings.

Errno	Description
E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

Element definition: **gpo-applied-info**

[top]

GPO information that is currently applied on a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adv-audit-cap-staging		string optional	This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current central access policy. Default: No Auditing Attributes: non-

			creatable, non-modifiable
cap-list		string[] optional	List of Central Access Policies. Attributes: non-creatable, non-modifiable
dspath		string optional	LDAP DN path. Attributes: non-creatable, non-modifiable
extension		string[] optional	List of the GPO extensions. Attributes: non-creatable, non-modifiable
filesyspath		string optional	File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable
gpo-index	**[0..2^32-1]**	integer optional	The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable
gpo-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
gpo-status		string optional	GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable
gpo-uuid		string optional	GPO name in UUID format. Attributes: non-creatable, non-modifiable
link		string optional	Type of the GPO. Attributes: non-creatable, non-modifiable
registry-hash-publication-mode		string optional	Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable
registry-hash-version		string optional	Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable
registry-refresh-interval	**[0..2^32-1]**	integer optional	Registry refreshint time interval. Attributes: non-creatable, non-modifiable
registry-refresh-random-offset	**[0..2^32-1]**	integer optional	Registry refreshing time random offset. Attributes: non-creatable, non-modifiable
security-audit-log-ret-method		string optional	Security log retention method. Attributes: non-creatable, non-modifiable
security-audit-logon-events		string optional	Log-on events to be audited. Attributes: non-creatable, non-modifiable
security-audit-max-log-size	**[0..2^32-1]**	integer optional	Maximum size of security log. Attributes: non-creatable, non-modifiable
security-audit-object-access		string optional	Object access to be audited. Attributes: non-creatable, non-modifiable
security-file-security		gpo-file-security-path[] optional	List of files or directories for which file security is applied. Attributes: non-creatable, non-modifiable
security-kerberos-clock-skew	**[0..2^32-1]**	integer optional	Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable
security-kerberos-	**[0..2^32-**	integer	Kerberos maximum lifetime for user ticket renewal. Attributes:

renewal-age	**1]**	optional	non-creatable, non-modifiable
security-kerberos-ticket-age	**[0..2^32-1]**	integer optional	Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable
security-privilege-rights-change-notify		gpo-user-group[] optional	List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable
security-privilege-rights-security		gpo-user-group[] optional	List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable
security-privilege-rights-take-ownership		gpo-user-group[] optional	List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable
security-registry-signing-required		boolean optional	SMB Signing Required Attributes: non-creatable, non-modifiable
security-restrict-anon-combined-restriction-for-anonymous-user		anonymous-restriction-level optional	Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values: • "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
security-restrict-anon-no-access		boolean optional	Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam		boolean optional	Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam-share		boolean optional	Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restricted-groups		gpo-user-group[] optional	List of Restricted groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	The individual GPO's update version. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver display name. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-config**

[top]

Group Policy configuration for Vservers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-gpo-enabled		true-false optional	Group Policy Zapi Status. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	The name of the Vserver associated with this group-policy. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-gpresult-info**

[top]

GPO RSoP(Resultant Set of Policy) that is currently defined on the Active Directory for a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adv-audit-cap-staging		string optional	This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current

			central access policy. Default: No Auditing Attributes: non-creatable, non-modifiable
cap-list		string[] optional	List of Central Access Policies. Attributes: non-creatable, non-modifiable
dspath		string optional	LDAP DN path. Attributes: non-creatable, non-modifiable
extension		string[] optional	List of the GPO extensions. Attributes: non-creatable, non-modifiable
filesyspath		string optional	File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable
gpo-index	**[0..2^32-1]**	integer optional	The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable
gpo-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
gpo-status		string optional	GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable
gpo-uuid		string optional	GPO name in UUID format. Attributes: non-creatable, non-modifiable
link		string optional	Type of the GPO. Attributes: non-creatable, non-modifiable
registry-hash-publication-mode		string optional	Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable
registry-hash-version		string optional	Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable
registry-refresh-interval	**[0..2^32-1]**	integer optional	Registry refreshint time interval. Attributes: non-creatable, non-modifiable
registry-refresh-random-offset	**[0..2^32-1]**	integer optional	Registry refreshing time random offset. Attributes: non-creatable, non-modifiable
security-audit-log-ret-method		string optional	Security log retention method. Attributes: non-creatable, non-modifiable
security-audit-logon-events		string optional	Log-on events to be audited. Attributes: non-creatable, non-modifiable
security-audit-max-log-size	**[0..2^32-1]**	integer optional	Maximum size of security log in kbytes. Attributes: non-creatable, non-modifiable
security-audit-object-access		string optional	Object access to be audited. Attributes: non-creatable, non-modifiable
security-file-security		gpo-file-security-path[] optional	List of files or directories for which file security is to be applied. Attributes: non-creatable, non-modifiable
security-kerberos-clock-skew	**[0..2^32-1]**	integer optional	Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable
security-			

kerberos-renewal-age	**[0..2^32-1]**	integer optional	Kerberos maximum lifetime for user ticket renewal. Attributes: non-creatable, non-modifiable
security-kerberos-ticket-age	**[0..2^32-1]**	integer optional	Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable
security-privilege-rights-change-notify		gpo-user-group[] optional	List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable
security-privilege-rights-security		gpo-user-group[] optional	List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable
security-privilege-rights-take-ownership		gpo-user-group[] optional	List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable
security-registry-signing-required		boolean optional	SMB Signing Required Attributes: non-creatable, non-modifiable
security-restrict-anon-combined-restriction-for-anonymous-user		anonymous-restriction-level optional	Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values: • "no_restriction" - No Access Restriction for Anonymous User., • "no_enumeration" - Only Enumeration Is Restricted., • "no_access" - Access Restricted for Anonymous User.
security-restrict-anon-no-access		boolean optional	Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam		boolean optional	Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restrict-anon-noenum-sam-share		boolean optional	Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable
security-restricted-groups		gpo-user-group[] optional	List of Restricted groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	The individual GPO's update version. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver display name. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-restricted-group-applied-info**

[top]

Applied Restricted Group Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		string optional	Group name associated with GPO group-policy-name. Attributes: key, non-creatable, non-modifiable
group-policy-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
link-type		string optional	GPO link type. Attributes: non-creatable, non-modifiable
member-of		gpo-user-group[] optional	Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable
members		gpo-user-group[] optional	Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	GPO version. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable

Element definition: **gpo-restricted-group-defined-info**

[top]

Defined Restricted Group Settings in DC When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-name		string optional	Group name associated with GPO group-policy-name. Attributes: non-creatable, non-modifiable

group-policy-name		string optional	GPO name in text format. Attributes: non-creatable, non-modifiable
link-type		string optional	GPO link type. Attributes: non-creatable, non-modifiable
member-of		gpo-user-group[] optional	Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable
members		gpo-user-group[] optional	Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable
version	**[0..2^32-1]**	integer optional	GPO version. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable

Element definition: **true-false**

[top]

True/False

[none]

Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

Element definition: **gpo-file-security-path**

[top]

A group policy file security path string.

[none]

Element definition: **gpo-user-group**

[top]

A group name or a user name.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **group-mapping**

group-mapping-create
group-mapping-delete
group-mapping-get-iter
group-mapping-insert
group-mapping-modify
group-mapping-swap

group-mapping-create

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new group mapping for a Vserver.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.
replacement		string	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.
return-record		boolean optional	If set to true, returns the group-mapping on successful creation. Default: false

Output Name	Range	Type	Description
result		group-mapping-info optional	The group-mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

group-mapping-delete

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete an existing group mapping entry.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

group-mapping-get-iter

[top]

This API is no longer supported as of ONTAP 9.5.0.

Retrieve the list of group mappings in the cluster.

Input Name	Range	Type	Description
desired-attributes		group-mapping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		group-mapping-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the group-mapping object. All group-mapping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		group-mapping-info[] optional	The list of attributes of group-mapping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more group-mapping objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

group-mapping-insert

[top]

This API is no longer supported as of ONTAP 9.5.0.

Insert a group mapping into the table at a specified position.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..1024]**	integer	Position within the set of group mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list.
replacement		string	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

group-mapping-modify

[top]

This API is no longer supported as of ONTAP 9.5.0.

Modify an existing group mapping entry.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the group mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string optional	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.
replacement		string optional	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

group-mapping-swap

[top]

This API is no longer supported as of ONTAP 9.5.0.

Swap the position of one group mapping with another. The position is the place in the sequence of group mappings in which the mappings are applied.

Input Name	Range	Type	Description
direction		string	Direction in which the group mapping is applied.
position	**[1..1024]**	integer	Position of an existing group mapping in the list of group mappings for this Vserver.
with-position	**[0..2^32-1]**	integer	Position of an existing group mapping entry in the list of group mappings for this Vserver. This entry will be swapped with the entry at 'position'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **group-mapping-info**

[top]

This type is no longer supported as of ONTAP 9.5.0.

group mapping configuration for Vservers. The possible sources of group mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user groups, UNIX user groups and Kerberos principal groups can be three disjoint sets of groups. A mechanism is needed to map groups from one set to another when presenting ACLs across multiprotocol clients. Each group mapping entry represents one such map in a given direction. group mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to '418 :+)' and the replacement string should be set to '\1'. The double backslash (\\) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
direction		name-mapping-direction optional	Direction in which the group mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
pattern		string optional	Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable
position	**[1..1024]**	integer optional	Position of an existing group mapping in the list of group mappings for this Vserver. Attributes: key, required-for-create, non-modifiable
		string	The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string

replacement		optional	containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable
vserver		string optional	Specifies the Vserver for the group mapping. Attributes: key, non-creatable, non-modifiable

Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

APIs in Category: **ha-interconnect**

This set of ZAPIs allows management of high-availability interconnect device and its links.

ha-interconnect-clear-port-counters
ha-interconnect-clear-port-symbol-errors
ha-interconnect-config-details-get-iter
ha-interconnect-connection-status-get-iter
ha-interconnect-flint-flash-details-get-iter
ha-interconnect-flint-image-details-get-iter
ha-interconnect-flint-verify-flash
ha-interconnect-flint-verify-image
ha-interconnect-flush-details-get-iter
ha-interconnect-get-config-details
ha-interconnect-get-connection-status
ha-interconnect-get-flint-flash-details
ha-interconnect-get-flint-image-details
ha-interconnect-get-flush-details
ha-interconnect-get-nvram-configuration
ha-interconnect-get-ood-status
ha-interconnect-get-performance-statistics
ha-interconnect-get-port-details
ha-interconnect-get-scatter-gather-list-statistics
ha-interconnect-get-timeout-values
ha-interconnect-link-off
ha-interconnect-link-on
ha-interconnect-modify-timeout-values
ha-interconnect-nic-reset
ha-interconnect-nvram-configuration-get-iter
ha-interconnect-ood-clear-error-statistics
ha-interconnect-ood-clear-performance-

statistics
ha-interconnect-ood-disable-statistics
ha-interconnect-ood-enable-statistics
ha-interconnect-ood-optimization-off
ha-interconnect-ood-optimization-on
ha-interconnect-ood-send-diagnostic-buffer
ha-interconnect-ood-status-get-iter
ha-interconnect-performance-statistics-get-iter
ha-interconnect-port-details-get-iter
ha-interconnect-scatter-gather-list-statistics-get-iter
ha-interconnect-timeout-values-get-iter

ha-interconnect-clear-port-counters

[top]

Clear high-availability interconnect port counters of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-clear-port-symbol-errors

[top]

Clear high-availability interconnect port symbol errors of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-config-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device configuration information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-config-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-config-details optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-config-details object. All ha-interconnect-config-details objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-config-details[] optional	The list of attributes of ha-interconnect-config-details objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-config-details objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-connection-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect connection status

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		ha-interconnect-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-status-info object. All ha-interconnect-status-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-status-info[] optional	The list of attributes of ha-interconnect-status-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-status-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_INSUFFICIENT_DATA	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-flint-flash-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the flash card attached to adapter

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-flash-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-flint-flash-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-flash-info object. All ha-interconnect-flint-flash-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-flint-flash-info[] optional	The list of attributes of ha-interconnect-flint-flash-info objects.

next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-flint-flash-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-flint-image-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the system

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-flint-image-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-image-info object. All ha-interconnect-flint-image-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-flint-image-info[] optional	The list of attributes of ha-interconnect-flint-image-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-flint-image-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-flint-verify-flash

[top]

Verify high-availability interconnect binary firmware image residing in flash card attached to adapter on the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLINT_FAIL	

ha-interconnect-flint-verify-image

[top]

Verify high-availability interconnect binary firmware image residing in system on the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLINT_FAIL	

ha-interconnect-flush-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device flush information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flush-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-flush-details optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flush-details object. All ha-interconnect-flush-details objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		ha-interconnect-	

attributes-list		flush-details[] optional	The list of attributes of ha-interconnect-flush-details objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-flush-details objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLUSHING_INACTIVE	

ha-interconnect-get-config-details

[top]

Get high-availability interconnect device configuration information of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-config-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this configuration information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-config-details	The attributes of the ha-interconnect-config-details.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-connection-status

[top]

Get high-availability interconnect connection status of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this connection status belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-status-info	The attributes of the ha-interconnect-status-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_INSUFFICIENT_DATA	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-flint-flash-details

[top]

Get high-availability interconnect binary firmware image information residing in the flash card attached to adapter of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-flash-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this device firmware image information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-flint-flash-info	The attributes of the ha-interconnect-flint-flash-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-flint-image-details

[top]

Get high-availability interconnect binary firmware image information residing in the system of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-flint-image-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this device firmware image information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-flint-image-info	The attributes of the ha-interconnect-flint-image-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-flush-details

[top]

Get high-availability interconnect device flush information of the selected node

Input Name	Range	Type	Description
channel-name		ha-ic-nv-channel	High-availability interconnect device NVRAM channel name. Possible values: • "wafl" - HA Interconnect WAFL NV Channel, • "raid" - HA Interconnect RAID NV Channel, • "misc" - HA Interconnect MISC NV Channel
desired-attributes		ha-interconnect-flush-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this flush information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-flush-details	The attributes of the ha-interconnect-flush-details.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_FLUSHING_INACTIVE	

ha-interconnect-get-nvram-configuration

[top]

Get basic nvram configuration information of the selected node

Input Name	Range	Type	Description
desired-		ha-interconnect-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		nvram-info optional	present, only the desired attributes for which information is available will be returned.
node-name		node-name	Node

Output Name	Range	Type	Description
attributes		ha-interconnect-nvram-info	The attributes of the ha-interconnect-nvram-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_NO_NVRAM	

ha-interconnect-get-ood-status

[top]

Get high-availability interconnect device out-of-order delivery information of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-ood-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this out-of-order delivery capability information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-ood-status	The attributes of the ha-interconnect-ood-status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-performance-statistics

[top]

Get high-availability interconnect performance statistics of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-performance-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this performance statistics belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-performance-statistics	The attributes of the ha-interconnect-performance-statistics.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-get-port-details

[top]

Get high-availability interconnect device port information of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-port-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this high-availability interconnect device port information belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-port-details	The attributes of the ha-interconnect-port-details.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-get-scatter-gather-list-statistics

[top]

Get high-availability interconnect device scatter-gather list entry statistics of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-scatter-gather-list-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which this scatter-gather list entry statistics belongs.

Output Name	Range	Type	Description

attributes		ha-interconnect-scatter-gather-list-statistics	The attributes of the ha-interconnect-scatter-gather-list-statistics.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-get-timeout-values

[top]

Get high-availability interconnect software timeout values of the selected node

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-timeout optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node to which these timeout values belongs.

Output Name	Range	Type	Description
attributes		ha-interconnect-timeout	The attributes of the ha-interconnect-timeout.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-link-off

[top]

Turn off selected interconnect link on the selected node

Input Name	Range	Type	Description
link-number		ha-ic-device-port	Interconnect link number (0-based) to turn off.
node-name		filer-id	The node on which the link command executes.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_LINK_OPERATION_STATUS	

ha-interconnect-link-on

[top]

Turn on selected interconnect link on the selected node

Input Name	Range	Type	Description
link-number		ha-ic-device-port	Interconnect link number (0-based) to turn on.
node-name		filer-id	The node on which the link command executes.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_LINK_OPERATION_STATUS	

ha-interconnect-modify-timeout-values

[top]

Change high-availability interconnect software timeout values of the selected node

Input Name	Range	Type	Description
ic-mvia-timeout		integer optional	Interconnect Read/write Timeout For Virtual Platforms(msecs)
ic-timeout		integer optional	Interconnect Read/write Timeout (msecs)
node-name		node-name	The node to which these timeout values belongs.
ofw-mvia-timeout		integer optional	Firmware Read Timeout For Virtual Platforms(msecs)
ofw-timeout		integer optional	Firmware Read Timeout (msecs)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ha-interconnect-nic-reset

[top]

Reset high-availability interconnect device of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

[top]

ha-interconnect-nvram-configuration-get-iter

Iterate over list of nodes in the cluster to get their basic nvram configuration information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-nvram-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-nvram-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-nvram-info object. All ha-interconnect-nvram-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-nvram-info[] optional	The list of attributes of ha-interconnect-nvram-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-nvram-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_NO_NVRAM	

ha-interconnect-ood-clear-error-statistics

[top]

Clear high-availability interconnect device out-of-order delivery error statistics of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-clear-performance-statistics

[top]

Clear high-availability interconnect device out-of-order delivery performance statistics of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-disable-statistics

[top]

Disable high-availability interconnect device out-of-order delivery statistics collection for the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-enable-statistics

[top]

Enable high-availability interconnect device out-of-order delivery statistics collection for the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-optimization-off

[top]

Disable coalescing work requests on high-availability interconnect device of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-optimization-on

[top]

Enable coalescing work requests on high-availability interconnect device of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-ood-send-diagnostic-buffer

[top]

Send diagnostic buffer to the HA partner of the selected node

Input Name	Range	Type	Description
node-name		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	
EHAIC_SEND_DIAG_FAIL	

ha-interconnect-ood-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device out-of-order delivery information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-ood-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
		ha-	A query that specifies which objects to return. A query could be

query		interconnect-ood-status optional	specified on any number of attributes in the ha-interconnect-ood-status object. All ha-interconnect-ood-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-ood-status[] optional	The list of attributes of ha-interconnect-ood-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-ood-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EHAIC_COMMAND_UNSUPPORTED	

ha-interconnect-performance-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect performance statistics

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-performance-statistics optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-performance-statistics optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-performance-statistics object. All ha-interconnect-performance-statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-performance-statistics[] optional	The list of attributes of ha-interconnect-performance-statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-performance-statistics objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

ha-interconnect-port-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device port information

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-port-details optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-port-details optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-port-details object. All ha-interconnect-port-details objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-port-details[] optional	The list of attributes of ha-interconnect-port-details objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-port-details objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ha-interconnect-scatter-gather-list-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device scatter-gather list entry statistics

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-scatter-gather-list-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		statistics optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-scatter-gather-list-statistics optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-scatter-gather-list-statistics object. All ha-interconnect-scatter-gather-list-statistics objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-scatter-gather-list-statistics[] optional	The list of attributes of ha-interconnect-scatter-gather-list-statistics objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-scatter-gather-list-statistics objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ha-interconnect-timeout-values-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect software timeout values

Input Name	Range	Type	Description
desired-attributes		ha-interconnect-timeout optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ha-interconnect-timeout optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-timeout object. All ha-interconnect-timeout objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ha-interconnect-timeout[]	The list of attributes of ha-interconnect-timeout objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more ha-interconnect-timeout objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ha-ic-device-port**

[top]

0|1 Possible values:

- "0" - HA Interconnect Device Port 0,
- "1" - HA Interconnect Device Port 1

[none]

Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

Element definition: **ha-interconnect-config-details**

[top]

High-availability interconnect configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-request-initiator		ha-ic-initiator optional	The initiator of the connection request. Attributes: non-creatable, non-modifiable Possible values: • "local" - HA Interconnect connections are initiated by the local node, • "partner" - HA Interconnect connections are initiated by the partner
interconnect-port-details		interconnect-port-info[] optional	Interconnect device ports information
interface-type		ha-ic-interface-type optional	High-availability interconnect links connection interface. Attributes: non-creatable, non-modifiable Possible values: • "backplane" - HA Interconnect is using backplane (internal) links, • "external" - HA Interconnect is using external links
local-node-sysid	**[0..2^32-1]**	integer optional	Local system identifier. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this configuration information belongs. Attributes: key, non-creatable, non-modifiable
partner-node-sysid	**[0..2^32-1]**	integer optional	HA partner system identifier. Attributes: non-creatable, non-modifiable
transport-type		string optional	High-availability interconnect type. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-flint-flash-info**

[top]

High-availability interconnect binary firmware image information residing in flash card attached to adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
board-id		string optional	Interconnect device board identifier. Attributes: non-creatable, non-modifiable
chip-revision		string optional	Chip Revision Attributes: non-creatable, non-modifiable
device-id	**[0..2^32-1]**	integer optional	Device ID Attributes: non-creatable, non-modifiable
fw-version		string optional	Firmware Version Attributes: non-creatable, non-modifiable

hw-access-key		string optional	Hardware Access Key Attributes: non-creatable, non-modifiable
image-type		ha-ic-flint-image-type optional	Image Type Attributes: non-creatable, non-modifiable Possible values: • "connectx" - ConnectX device family, • "fs2" - Flexible storage solutions device family, • "failsafe" - Failsafe enabled device family, • "short" - Non-Failsafe device family
invariant-sector-version	**[0..2^32-1]**	integer optional	Invariant Sector Version Attributes: non-creatable, non-modifiable
node-guid		string optional	Node global unique identifier. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable
parameter-set-id		string optional	Parameter set identifier. Attributes: non-creatable, non-modifiable
port1-guid		string optional	Port 1 global unique identifier. Attributes: non-creatable, non-modifiable
port1-mac		string optional	Port 1 MAC address. Attributes: non-creatable, non-modifiable
port2-guid		string optional	Port 2 GUID Attributes: non-creatable, non-modifiable
port2-mac		string optional	Port 2 MAC address. Attributes: non-creatable, non-modifiable
product-version		string optional	Product Version Attributes: non-creatable, non-modifiable
sys-image-guid		string optional	System image global unique identifier. Attributes: non-creatable, non-modifiable
vendor-specific-data		string optional	Vendor specific data. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-flint-image-info**

[top]

High-availability interconnect binary firmware image information residing in system When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
board-id		string optional	Interconnect device board identifier. Attributes: non-creatable, non-modifiable
chip-revision		string optional	Chip Revision Attributes: non-creatable, non-modifiable
	[0..2^32-	integer	

device-id	**1]**	optional	Device ID Attributes: non-creatable, non-modifiable
fw-version		string optional	Firmware Version Attributes: non-creatable, non-modifiable
hw-access-key		string optional	Hardware Access Key Attributes: non-creatable, non-modifiable
image-type		ha-ic-flint-image-type optional	Image Type Attributes: non-creatable, non-modifiable Possible values: • "connectx" - ConnectX device family, • "fs2" - Flexible storage solutions device family, • "failsafe" - Failsafe enabled device family, • "short" - Non-Failsafe device family
invariant-sector-version	**[0..2^32-1]**	integer optional	Invariant Sector Version Attributes: non-creatable, non-modifiable
node-guid		string optional	Node global unique identifier. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable
parameter-set-id		string optional	Parameter set identifier. Attributes: non-creatable, non-modifiable
port1-guid		string optional	Port 1 global unique identifier. Attributes: non-creatable, non-modifiable
port1-mac		string optional	Port 1 MAC address. Attributes: non-creatable, non-modifiable
port2-guid		string optional	Port 2 GUID Attributes: non-creatable, non-modifiable
port2-mac		string optional	Port 2 MAC address. Attributes: non-creatable, non-modifiable
product-version		string optional	Product Version Attributes: non-creatable, non-modifiable
sys-image-guid		string optional	System image global unique identifier. Attributes: non-creatable, non-modifiable
vendor-specific-data		string optional	Vendor specific data. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-flush-details**

[top]

High-availability interconnect flush information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
			High-availability interconnect device NVRAM channel name.

channel-name		ha-ic-nv-channel optional	Attributes: key, non-creatable, non-modifiable Possible values: • "wafl" - HA Interconnect WAFL NV Channel, • "raid" - HA Interconnect RAID NV Channel, • "misc" - HA Interconnect MISC NV Channel
node-name		node-name optional	The node to which this flush information belongs. Attributes: key, non-creatable, non-modifiable
recv-flush-request-id	**[0..2^64-1]**	integer optional	Flush receive request identifier. Attributes: non-creatable, non-modifiable
recv-notify-complete-id	**[0..2^64-1]**	integer optional	Flush receive request completion identifier. Attributes: non-creatable, non-modifiable
sent-flush-request-id	**[0..2^64-1]**	integer optional	Flush sent request identifier. Attributes: non-creatable, non-modifiable
sent-notify-complete-id	**[0..2^64-1]**	integer optional	Flush sent request completion identifier. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-nvram-info**

[top]

Basic nvram configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
local-size		size optional	Amount of NVRAM used by Local Node Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node Attributes: key, non-creatable, non-modifiable
partition		string optional	NVRAM Partition Attributes: non-creatable, non-modifiable
total-size		size optional	Total NVRAM Size Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-ood-status**

[top]

High-availability interconnect device out-of-order delivery information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-coalescing-enabled		boolean optional	Is Coalescing Enabled Attributes: non-creatable, non-modifiable
is-ood-enabled		boolean optional	Is OOD Enabled Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this out-of-order delivery capability information belongs. Attributes: key, non-creatable, non-modifiable

Element definition: **ha-interconnect-performance-statistics**

[top]

Display high-availability interconnect performance statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
average-bytes-per-transfer	**[0..2^64-1]**	integer optional	Average amount of bytes sent per transfer. Attributes: non-creatable, non-modifiable
average-megabytes-per-second		string optional	Average megabytes (MB) transferred per second. Attributes: non-creatable, non-modifiable
average-receive-queue-wait-time	**[0..2^64-1]**	integer optional	Average amount of time (in usecs) the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable
average-remote-nv-msgs-time	**[0..2^64-1]**	integer optional	Average time (in usecs) between two remote NV messages. Attributes: non-creatable, non-modifiable
average-remote-nv-transfer-size	**[0..2^64-1]**	integer optional	Average transfer size of a remote NV message. Attributes: non-creatable, non-modifiable
average-remote-nv-transfer-time	**[0..2^64-1]**	integer optional	Average transfer time taken (in usecs) by remote NV messages. Attributes: non-creatable, non-modifiable
avg-misc-queue-length	**[0..2^64-1]**	integer optional	Average MISC interconnect channel queue depth. Attributes: non-creatable, non-modifiable
avg-nvlog-sync-time	**[0..2^64-1]**	integer optional	Average time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable
avg-raid-queue-length	**[0..2^64-1]**	integer optional	Average RAID interconnect channel queue depth. Attributes: non-creatable, non-modifiable
avg-wafl-queue-length	**[0..2^64-1]**	integer optional	Average WAFL interconnect channel queue depth. Attributes: non-creatable, non-modifiable

elapsed-time	**[0..2^32-1]**	integer optional	Elapsed time (in seconds) between statistics collection start time and end time. Attributes: non-creatable, non-modifiable
ic-16k-writes	**[0..2^64-1]**	integer optional	Total number of 16K or more size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-4k-writes	**[0..2^64-1]**	integer optional	Total number of 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-8k-writes	**[0..2^64-1]**	integer optional	Total number of 8K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-data-aligned	**[0..2^64-1]**	integer optional	Total number of aligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-data-misaligned	**[0..2^64-1]**	integer optional	Total number of misaligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-discontiguous-writes	**[0..2^64-1]**	integer optional	Total number of times the interconnect device performs discontiguous writes spanned across memory pages. Attributes: non-creatable, non-modifiable
ic-isdone	**[0..2^64-1]**	integer optional	Total number of times the interconnect client checked for the completion of a given tranfer ID. Attributes: non-creatable, non-modifiable
ic-isdone-fail	**[0..2^64-1]**	integer optional	Total number of times the check for the completion of a given trasfer ID is not yet successful. Attributes: non-creatable, non-modifiable
ic-isdone-pass	**[0..2^64-1]**	integer optional	Total number of times the check for the completion of a given transfer ID is successful. Attributes: non-creatable, non-modifiable
ic-metadata-aligned	**[0..2^64-1]**	integer optional	Total number of aligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-metadata-misaligned	**[0..2^64-1]**	integer optional	Total number of misaligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-small-writes	**[0..2^64-1]**	integer optional	Total number of less than 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-waitdone-time	**[0..2^64-1]**	integer optional	Average time (in usecs) the interconnect device spent waiting for the IDs to be transferred successfully. Attributes: non-creatable, non-modifiable
ic-waits	**[0..2^64-1]**	integer optional	Total number of times the interconnect device waits until the transfer of a given ID is successful. Attributes: non-creatable, non-modifiable
ic-xorder-reads	**[0..2^64-1]**	integer optional	Total number of out-of-order reads performed by the interconnect device. Attributes: non-creatable, non-modifiable
ic-xorder-writes	**[0..2^64-1]**	integer optional	Total number of out-of-order writes performed by the interconnect device. Attributes: non-creatable, non-modifiable
max-nvlog-sync-time	**[0..2^64-1]**	integer optional	Maximum time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable
max-sgl-length	**[0..2^32-1]**	integer optional	Maximum length of scatter-gather list supported by the interconnect device. Attributes: non-creatable, non-modifiable
misc-data-io	**[0..2^64-1]**	integer optional	Total number of MISC data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
misc-flush-io	**[0..2^64-1]**	integer optional	Total number of MISC flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
misc-metadata-io	**[0..2^64-1]**	integer optional	Total number of MISC metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this performance statistics belongs. Attributes: key, non-creatable, non-modifiable
nonpreempt-	**[0..2^64-**	integer	Total number of times polling on the given transfer ID stopped due to interconnect device read/write timeout. Attributes: non-

timeout	**1]**	optional	creatable, non-modifiable
notify-timeout	**[0..2^64-1]**	integer optional	Total number of times data transfer on the HA interconnect timed out. Attributes: non-creatable, non-modifiable
nv-conn-failover-time	**[0..2^64-1]**	integer optional	NV connection failover time (in msecs). Attributes: non-creatable, non-modifiable
preempt-timeout	**[0..2^64-1]**	integer optional	Total number of times polling on the given transfer ID is preempted. Attributes: non-creatable, non-modifiable
queue-max-timeout	**[0..2^64-1]**	integer optional	Total number of times the interconnect device timed out waiting to post requests on the send queue. Attributes: non-creatable, non-modifiable
queue-max-wait-count	**[0..2^64-1]**	integer optional	Total number of times the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable
queue-max-wait-time	**[0..2^64-1]**	integer optional	Average amount of time (in usecs) the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable
raid-data-io	**[0..2^64-1]**	integer optional	Total number of RAID data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
raid-flush-io	**[0..2^64-1]**	integer optional	Total number of RAID flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
raid-metadata-io	**[0..2^64-1]**	integer optional	Total number of RAID metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
rdma-read	**[0..2^64-1]**	integer optional	Total number of RDMA reads performed by the interconnect device. Attributes: non-creatable, non-modifiable
rdma-read-waitdone-time	**[0..2^64-1]**	integer optional	Average time (in usecs) the interconnect device spent polling for transfer IDs on the RDMA-read channel. Attributes: non-creatable, non-modifiable
remote-nv-transfers	**[0..2^64-1]**	integer optional	Total number of remote NV transfers attempted. Attributes: non-creatable, non-modifiable
total-receive-queue-waits	**[0..2^64-1]**	integer optional	Total number of times the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable
total-transfers	**[0..2^64-1]**	integer optional	Total number of transfers made through the interconnect device. Attributes: non-creatable, non-modifiable
wafl-data-io	**[0..2^64-1]**	integer optional	Total number of WAFL data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
wafl-flush-io	**[0..2^64-1]**	integer optional	Total number of WAFL flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable
wafl-metadata-io	**[0..2^64-1]**	integer optional	Total number of WAFL metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable

Element definition: **ha-interconnect-port-details**

[top]

High-availability interconnect device port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
device-port-details		device-port-info[] optional	Interconnect device port link state information
link-monitor		boolean optional	Link monitor detection capability. On means link monitor detection is enabled on this device. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The node to which this high-availability interconnect device port information belongs. Attributes: key, non-creatable, non-modifiable

Element definition: **ha-interconnect-scatter-gather-list-statistics**

[top]

High-availability interconnect device scatter-gather list entry statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node-name		node-name optional	The node to which this scatter-gather list entry statistics belongs. Attributes: key, non-creatable, non-modifiable
sgl-details		sgl-info[] optional	Interconnect device scatter-gather list statistics

Element definition: **ha-interconnect-status-info**

[top]

High-availability interconnect connection status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
command-revision	**[0..2^32-1]**	integer optional	High-availability interconnect device command revision. Attributes: non-creatable, non-modifiable

debug-firmware		boolean optional	High-availability interconnect device firmware debug capability status. Attributes: non-creatable, non-modifiable
device-type		string optional	Device Type Attributes: non-creatable, non-modifiable
driver-name		string optional	High-availability interconnect device driver name. Attributes: non-creatable, non-modifiable
firmware		string optional	High-availability interconnect device firmware version. Attributes: non-creatable, non-modifiable
hardware-revision	**[0..2^32-1]**	integer optional	High-availability interconnect device hardware revision. Attributes: non-creatable, non-modifiable
ic-connection		ha-ic-state optional	The status of failover monitor channel over the interconnect. up means channel is active. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
is-link0-active		boolean optional	Link 0 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable
is-link1-active		boolean optional	Link 1 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable
link-status		ha-ic-state optional	High-availability interconnect link status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
link0-status		ha-ic-state optional	High-availability interconnect link 0 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
link1-status		ha-ic-state optional	High-availability interconnect link 1 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
node-name		node-name optional	The node to which this connection status belongs. Attributes: key, non-creatable, non-modifiable
nvlog-rdma		ha-ic-state optional	The status of NVRAM channels over the interconnect. up means channels are active. Attributes: non-creatable, non-modifiable Possible values: • "up" - Indicate up status of a HA Interconnect entity, • "down" - Indicate down status of a HA Interconnect entity, • "error" - Indicate error status of a HA Interconnect entity
port-number-1	**[0..2^32-1]**	integer optional	High-availability interconnect device port 1. Attributes: non-creatable, non-modifiable
port-number-2	**[0..2^32-1]**	integer optional	High-availability interconnect device port 2. Attributes: non-creatable, non-modifiable

port1-base-lid		string optional	High-availability interconnect device port 1 local identifier. Attributes: non-creatable, non-modifiable
port1-data-rate		string optional	High-availability interconnect device port 1 supported data rate. Attributes: non-creatable, non-modifiable
port1-gid		string optional	High-availability interconnect device port 1 global identifier. Attributes: non-creatable, non-modifiable
port1-link-info		string optional	High-availability interconnect device port 1 link information. Attributes: non-creatable, non-modifiable
port1-mtu	**[0..2^32-1]**	integer optional	High-availability interconnect device port 1 maximum transmission unit size. Attributes: non-creatable, non-modifiable
port1-port-name		string optional	High availability interconnect device port 1 port name. Attributes: non-creatable, non-modifiable
port1-qsfp-part-number		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable
port1-qsfp-serial-number		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable
port1-qsfp-type		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable
port1-qsfp-vendor		string optional	High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable
port1-remote-lid		string optional	High-availability interconnect device port 2 remote local identifier. Attributes: non-creatable, non-modifiable
port2-base-lid		string optional	High-availability interconnect device port 2 local identifier. Attributes: non-creatable, non-modifiable
port2-data-rate		string optional	High-availability interconnect device port 2 supported data rate. Attributes: non-creatable, non-modifiable
port2-gid		string optional	High-availability interconnect device port 2 global identifier. Attributes: non-creatable, non-modifiable
port2-link-info		string optional	High-availability interconnect device port 2 link information. Attributes: non-creatable, non-modifiable
port2-mtu	**[0..2^32-1]**	integer optional	High-availability interconnect device port 2 maximum transmission unit size. Attributes: non-creatable, non-modifiable
port2-port-name		string optional	High availability interconnect device port 2 port name. Attributes: non-creatable, non-modifiable
port2-qsfp-part-number		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable
port2-qsfp-serial-number		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable
port2-qsfp-type		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable
port2-qsfp-vendor		string optional	High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable
serial-number		string optional	High-availability interconnect device serial number. Attributes: non-creatable, non-modifiable
slot	**[0..2^32-1]**	integer optional	High-availability interconnect device PCI slot number. Attributes: non-creatable, non-modifiable
		string	High-availability interconnect device version number. Attributes:

version		optional	non-creatable, non-modifiable

Element definition: **ha-interconnect-timeout**

[top]

High-availability interconnect software timeout values When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ic-mvia-timeout	**[1000..34000]**	integer optional	Interconnect Read/write Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable
ic-timeout	**[1000..4000]**	integer optional	Interconnect Read/write Timeout (msecs) Attributes: non-creatable, modifiable
node-name		node-name optional	The node to which these timeout values belongs. Attributes: key, non-creatable, non-modifiable
ofw-mvia-timeout	**[1000..34000]**	integer optional	Firmware Read Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable
ofw-timeout	**[1000..4000]**	integer optional	Firmware Read Timeout (msecs) Attributes: non-creatable, modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **device-port-info**

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Interconnect device port link state information

Name	Range	Type	Description
is-active-link		boolean optional	Link active status. True means link on this given port is now active and used for the operations. Attributes: non-creatable, non-modifiable
		ha-ic-cx-	High-availability interconnect link link layer state on a given port. Attributes: non-creatable, non-modifiable Possible values: • "invalid" ,

link-layer-state		link-state optional	"down" , • "initialize" , • "armed" , • "active" , • "reserved"
phy-layer-state		ha-ic-cx-phy-state optional	High-availability interconnect link physical layer state on a given port. Attributes: non-creatable, non-modifiable Possible values: • "invalid" , • "sleep" , • "polling" , • "disabled" , • "port_configuration_testing" , • "linkup" , • "link_error_recovery" , • "phytest" , • "reserved"
phy-link-down-count	**[0..2^32-1]**	integer optional	Total number of times the link on a given port is transitioned down. Attributes: non-creatable, non-modifiable
phy-link-up-count	**[0..2^32-1]**	integer optional	Total number of times the link on a given port is transitioned up. Attributes: non-creatable, non-modifiable
port	**[0..2^32-1]**	integer optional	High-availability interconnect device port number. Attributes: non-creatable, non-modifiable

Element definition: **ha-ic-flint-image-type**

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connectx|fs2|failsafe|short Possible values:

- "connectx" - ConnectX device family,
- "fs2" - Flexible storage solutions device family,
- "failsafe" - Failsafe enabled device family,
- "short" - Non-Failsafe device family

[none]

Element definition: **ha-ic-initiator**

[top]

local|partner Possible values:

- "local" - HA Interconnect connections are initiated by the local node,
- "partner" - HA Interconnect connections are initiated by the partner

[none]

Element definition: **ha-ic-interface-type**

[top]

backplane|external Possible values:

- "backplane" - HA Interconnect is using backplane (internal) links,
- "external" - HA Interconnect is using external links

[none]

Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

Element definition: **ha-ic-state**

[top]

up|down Possible values:

- "up" - Indicate up status of a HA Interconnect entity,
- "down" - Indicate down status of a HA Interconnect entity,
- "error" - Indicate error status of a HA Interconnect entity

[none]

Element definition: **interconnect-port-info**

[top]

Interconnect device ports information

Name	Range	Type	Description
interface-flags		string optional	High-availability interconnect device port interface flags. Attributes: non-creatable, non-modifiable
ipaddress		string optional	High-availability interconnect device port IP address. Attributes: non-creatable, non-modifiable
port-name		string optional	High-availability interconnect device port name. Attributes: non-creatable, non-modifiable

Element definition: **sgl-info**

[top]

Interconnect device scatter-gather list statistics

Name	Range	Type	Description
scatter-gather-entry	**[0..2^32-1]**	integer optional	The index value of the scatter-gather entry in the list. Attributes: non-creatable, non-modifiable
total-count	**[0..2^64-1]**	integer optional	Total number of times a particular scatter-gather list element is used. Attributes: non-creatable, non-modifiable
total-size	**[0..2^64-1]**	integer optional	Total number of bytes written by the high-availability interconnect device using a particular scatter-gather list element. Attributes: non-creatable, non-modifiable

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **ha-ic-cx-link-state**

[top]

invalid|down|initialize|armed|active|reserved Possible values:

- "invalid" ,
- "down" ,
- "initialize" ,
- "armed" ,
- "active" ,
- "reserved"

[none]

Element definition: **ha-ic-cx-phy-state**

[top]

invalid|sleep|polling|disabled|port-configuration-testing|linkup|link-error-recovery|phytest|reserved Possible values:

- "invalid" ,
- "sleep" ,
- "polling" ,
- "disabled" ,
- "port_configuration_testing" ,
- "linkup" ,
- "link_error_recovery" ,
- "phytest" ,
- "reserved"

[none]

APIs in Category: **igroup**

igroup-add
igroup-bind-portset
igroup-create
igroup-destroy
igroup-get-iter
igroup-list-info
igroup-lookup-lun
igroup-os-type-list
igroup-remove
igroup-rename
igroup-set-attribute
igroup-unbind-portset

igroup-add

[top]

Adds initiator to an existing initiator group.

Input Name	Range	Type	Description
force		boolean optional	Forcibly add the initiator, disabling mapping and type conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored.
initiator		string	WWPN, WWPN Alias, or iSCSI name of Initiator to add.
initiator-group-name		string	Name of initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_NOT_VALID_ISCSI_NAME	
EVDISK_ERROR_INITGROUP_HAS_NODE	
EVDISK_ERROR_LUN_MAPPING_CONFLICT	
EVDISK_ERROR_INITGROUP_TOO_MANY_NODENAMES	
EVDISK_ERROR_PARTNER_HAS_LUN	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE	
EVDISK_ERROR_VIRTUAL_LUN_MAPPING_CONFLICT	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-bind-portset

[top]

Bind an existing igroup to a given portset.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to bind the portset to.
portset-name		string	Name of portset.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_SET	
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_ALREADY_BOUND	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE	
EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND	
E_SAN_NOT_READY	

igroup-create

[top]

Creates a new initiator group. In Data ONTAP 7.3 and upto ONTAP 8.0, the ALUA (Asymmetric Logical Unit Access) attribute will be enabled by default if initiator-group-type is "fcp" and os-type is "aix", "hpux", or "linux. In Data ONTAP 7-mode 8.1 and later, the ALUA attribute is enabled by default for all os-type if initiator-group-type is "fcp". In Data ONTAP Cluster-Mode 8.1 and later, the ALUA attribute is enabled by default on all initiator groups.

Input Name	Range	Type	Description
bind-portset		string optional	Name of a current portset to bind to the newly created igroup.
initiator-group-name		string	Name of initiator group.
initiator-group-type		string	Type of the initiator group. Possible values: "fcp", "iscsi", "mixed". "mixed" is available in Data ONTAP Cluster-Mode 8.1 or later only.
os-type		initiator-group-os-type optional	OS type of the initiators within the group. The default value if not specified is "default". The os type applies to all initiators within the group and governs the finer details of SCSI protocol interaction with these initiators. It is strongly recommended for the caller of this API to specify an OS type that is not "default". Some host OSes require this type field be set correctly in order to function properly.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_OS_TYPE_VALUE	
EVDISK_ERROR_INITGROUP_EXISTS	
EVDISK_ERROR_INITGROUP_MISSING_ARGS	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE	
EVDISK_ERROR_PORTSET_NO_SUCH_SET	
EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND	

EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-destroy

[top]

Destroys an existing initiator group. By default a group cannot be destroyed if there are existing lun maps defined for that group. This behaviour can be overridden with the use of force option set to "true" which will destroy the initiator group and any associated lun maps.

Input Name	Range	Type	Description
force		boolean optional	Forcibly destroy the initiator group, even if there are existing lun maps. Best practice is to attempt to unmap all the luns associated with a group before destroying it.
initiator-group-name		string	Name of initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_MAPS_EXIST	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-get-iter

[top]

Iterate over a list of igroup objects.

Input Name	Range	Type	Description
desired-attributes		initiator-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		initiator-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the igroup object. All igroup objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		initiator-group-info[] optional	The list of attributes of igroup objects.
next-tag		string optional	Tag for the next call. Not present when there are no more igroup objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

igroup-list-info

[top]

Get information for initiator group(s).

Input Name	Range	Type	Description
initiator-group-name		string optional	Name of initiator group. If specified, only information for that group is returned. If not specified, information for all of the initiator groups is returned.

Output Name	Range	Type	Description
initiator-groups		initiator-group-info[]	List of initiator groups.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	

Vfiler-enabled
Yes

igroup-lookup-lun

[top]

Find the path to the lun mapped at a given lun-id for a given initiator group.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to search.
lun-id	**[0..4095]**	integer	Lun-id (Logical Unit Number) to search for.

Output Name	Range	Type	Description
path		string	Path to the lun.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	

Errno	Description
EVDISK_ERROR_NO_SUCH_LUNMAP	

Vfiler-enabled
Yes

igroup-os-type-list

[top]

Displays the supported values and descriptions for initiator-group-os-type.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[]	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

igroup-remove

[top]

Removes node(s) from an initiator group. The operation is prohibited if there are existing lun maps defined for that group. The force option set to "true" can be used to forcibly remove the node regardless of mappings.

Input Name	Range	Type	Description
force		boolean optional	Forcibly remove the initiator even if there are existing LUNs mapped to this initiator group.
initiator		string	WWPN, WWPN Alias, or iSCSI name of Initiator to remove.
initiator-group-name		string	Name of initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_MAPS_EXIST	
EVDISK_ERROR_NOT_VALID_FC_WWN	
EVDISK_ERROR_NOT_VALID_ISCSI_NAME	
EVDISK_ERROR_NODE_NOT_IN_INITGROUP	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-rename

[top]

Rename an existing initiator group. The rename operation is non-disruptive.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to be renamed.
initiator-group-new-name		string	New name to be given to initiator group.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_EXISTS	
EVDISK_ERROR_CANT_CREATE_INITGROUP_FILE	
EVDISK_ERROR_CANT_WRITE_INITGROUP_FILE	
EVDISK_ERROR_CANT_RENAME_INITGROUP_FILE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

igroup-set-attribute

[top]

Sets an attribute for an initiator group.

Input Name	Range	Type	Description
attribute		string	Name of the attribute to change. Possible values: "alua", "os-type", "throttle_borrow", "throttle_reserve", "report_scsi_name". "alua" is available in Data ONTAP 7.2 or later. "report_scsi_name" is available in Data ONTAP 8.1.0 or later. "alua", "throttle_reserve","throttle_borrow" and "report_scsi_name" are not available in Data ONTAP Cluster-Mode.
initiator-group-name		string	Name of initiator group.
value		string	Value for the attribute. The valid values for "os-type" are the supported os-types listed in the igroup-create API. In Data ONTAP 7-Mode, setting the "os-type" attribute will perform checks with the high-availability partner if this filer is running in the 'single_image' fcp cfmode and this igroup is an FCP igroup. It is also strongly recommended the "default" os-type not be used. Using "default" may cause problems with LUN access. API to always require the proper OS type information The valid values for "throttle_reserve" are 0-99 The valid values for "throttle_borrow" are true or false The valid values for "alua" are true or false The valid values for "report_scsi_name" are true or false

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_MISSING_ARGS	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE	
EVDISK_ERROR_IGROUP_NOT_THROTTLED	
EVDISK_ERROR_IGROUP_ALREADY_THROTTLED	
EVDISK_ERROR_THROTTLE_TOO_MUCH	
EVDISK_ERROR_THROTTLE_BEING_DELETED	
EVDISK_ERROR_NO_ISCSI_THROTTLES	
EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_VALUE	

EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_CONFIG	
EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_ALUA_NOT_SUPPORTED	
EVDISK_ERROR_INITGROUP_WRONG_TYPE	
EVDISK_ERROR_ALUA_ISCSI_TRANSPORT_TYPE_CONFLICT	
EVDISK_ERROR_ALUA_FCP_TRANSPORT_TYPE_CONFLICT	
E_SAN_NOT_READY	

igroup-unbind-portset

[top]

Unbind an existing igroup from a portset.

Input Name	Range	Type	Description
initiator-group-name		string	Name of initiator group to unbind from the portset.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVDISK_ERROR_INITGROUP_NOT_BOUND	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
E_SAN_NOT_READY	

Element definition: **initiator-group-info**

[top]

Information about an initiator group.

Name	Range	Type	Description
initiator-group-alua-enabled		boolean	Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group.
initiator-group-delete-on-unmap		boolean optional	Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later.
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
initiator-group-portset-name		string optional	Name of the portset that is bound to the initiator group, if any.
initiator-			

group-report-scsi-name-enabled		boolean optional	Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later.
initiator-group-throttle-borrow		boolean	Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved.
initiator-group-throttle-reserve		integer	Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage.
initiator-group-type		string	Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed".
initiator-group-use-partner		boolean optional	Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'.
initiator-group-uuid		string optional	This value is Universally-unique identifier (UUID) of this initiator group. The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used. This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs. Here is an example of an actual UUID: 35d6ca90-c759-11df-8b6d-00a098132c6c
initiator-group-vsa-enabled		boolean	Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled.
initiators		initiator-info[] optional	List of initiators belonging to this group.
lun-id	**[0..4095]**	integer optional	LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api.
vserver		string optional	Name of the vserver hosting this initiator group

Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol

interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **initiator-info**

[top]

Information about one initiator.

Name	Range	Type	Description
initiator-name		string	Name of the initiator.

APIs in Category: **iscsi**

iscsi-adapter-config-down
iscsi-adapter-config-up
iscsi-adapter-initiators-list-info
iscsi-adapter-list-info
iscsi-adapter-reset-stats
iscsi-adapter-stats-list-info
iscsi-auth-add-initiator-address-ranges
iscsi-auth-generate-chap-password
iscsi-auth-remove-initiator-address-ranges
iscsi-connection-get-iter
iscsi-connection-list-info
iscsi-initiator-add-auth
iscsi-initiator-auth-get-iter
iscsi-initiator-auth-list-info
iscsi-initiator-delete-auth
iscsi-initiator-get-auth
iscsi-initiator-get-default-auth
iscsi-initiator-get-iter
iscsi-initiator-list-info
iscsi-initiator-modify-chap-params
iscsi-initiator-set-default-auth
iscsi-interface-accesslist-add
iscsi-interface-accesslist-get-iter
iscsi-interface-accesslist-remove
iscsi-interface-disable
iscsi-interface-enable
iscsi-interface-get-iter
iscsi-interface-list-info
iscsi-interface-modify
iscsi-iptpgroup-create
iscsi-iptpgroup-destroy
iscsi-iptpgroup-ipaddr-add
iscsi-iptpgroup-ipaddr-delete
iscsi-iptpgroup-list-info
iscsi-isns-config
iscsi-isns-create
iscsi-isns-destroy
iscsi-isns-get-info
iscsi-isns-get-iter
iscsi-isns-start
iscsi-isns-stop
iscsi-isns-update
iscsi-node-get-name
iscsi-node-set-name
iscsi-portal-list-info
iscsi-reset-stats
iscsi-service-create
iscsi-service-destroy
iscsi-service-get-iter

iscsi-service-modify
iscsi-service-start
iscsi-service-status
iscsi-service-stop
iscsi-session-get-iter
iscsi-session-list-info
iscsi-stats-get-iter
iscsi-stats-list-info
iscsi-target-alias-clear-alias
iscsi-target-alias-get-alias
iscsi-target-alias-set-alias
iscsi-tpgroup-alua-set
iscsi-tpgroup-create
iscsi-tpgroup-destroy
iscsi-tpgroup-get-iter
iscsi-tpgroup-interface-add
iscsi-tpgroup-interface-delete
iscsi-tpgroup-list-info

iscsi-adapter-config-down

[top]

Configures the specified adapter down. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

Input Name	Range	Type	Description
iscsi-adapter		string	iscsi adapter.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-adapter-config-up

[top]

Configures the specified adapter up. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

Input Name	Range	Type	Description
iscsi-adapter		string	iscsi adapter.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to any of the portal groups associated with specified adapter. Information returned for each initiator includes the target portal group number to which the initiator is connected, as well as the iSCSI initiator nodename and ISID. If no adapter is specified, information is returned for all initiators connected through any adapter in the system. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

Input Name	Range	Type	Description
iscsi-adapter		string optional	Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any iscsi adapter in the system.

Output Name	Range	Type	Description
iscsi-adapters		iscsi-adapter-initiators-info[]	A list of iscsi adapters containing list of initiators.

Errno	Description
EADAPTERNOTFOUND	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-adapter-list-info

[top]

Display the configuration information for iscsi adaptor(s), including the iSCSI portals associated with a virtual adapter. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

Input Name	Range	Type	Description
iscsi-adapter		string optional	Returns configuration information for adapter if specified. If not specified, then configuration information for all adapters are returned.

Output Name	Range	Type	Description
iscsi-config-adapters		iscsi-config-adapter-	A list of iscsi adapter configuration information.

		info[]	

Errno	Description
EADAPTERNOTFOUND	

Vfiler-enabled
Yes

License
iscsi

iscsi-adapter-reset-stats

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-reset-stats

Input Name	Range	Type	Description
iscsi-adapter		string optional	Adapter to reset statistics for.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-adapter-stats-list-info

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-stats-list-info The fields returned by iscsi-stats-list-info are very slightly different from those previously returned by iscsi-adapter-stats-list-info

Input Name	Range	Type	Description
iscsi-adapter		string optional	Adapter to get statistics for.

Errno	Description
EOPNOTSUPPORTED	

License
iscsi

iscsi-auth-add-initiator-address-ranges

[top]

Add one or more Initiator IP Address Ranges

Input Name	Range	Type	Description
initiator		string	Initiator Name
initiator-address-ranges		ip-range-or-mask[]	Initiator IP Address Ranges

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-auth-generate-chap-password

[top]

Generate a 128 bit random password that can be used as a CHAP secret. This API was removed in Data ONTAP 9.0. Applications should use local entropy to generate CHAP secrets if desired.

Output Name	Range	Type	Description
secret		string	A randomly generated 128 bit password.

Errno	Description
EISCSISECPROCESSINGERROR	
EAPIUNSUPPORTEDVERSION	

Vfiler-enabled
Yes

License
iscsi

iscsi-auth-remove-initiator-address-ranges

[top]

Remove one or more Initiator IP Address Ranges

Input Name	Range	Type	Description
initiator		string	Initiator Name
initiator-address-ranges		ip-range-or-mask[]	Initiator IP Address Ranges

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-connection-get-iter

[top]

Iterate over a list of iSCSI Connection objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-connection-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-connection-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Connection object. All iSCSI Connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-connection-list-entry-info[] optional	The list of attributes of iSCSI Connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-connection-list-info

[top]

list iscsi connections on filer

Output Name	Range	Type	Description
iscsi-connection-list-entries		iscsi-connection-list-entry-info[]	List of connection

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License

iscsi

iscsi-initiator-add-auth

[top]

Add initiator to the authentication list.

Input Name	Range	Type	Description
auth-type		string	Authentication type. Possible values: "CHAP", "none", "deny".
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".
initiator-address-ranges		ip-range-or-mask[] optional	May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address. An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.
outbound-passphrase		string optional	Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
outbound-user-name		string optional	Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
passphrase		string optional	Inbound CHAP user password, required for auth-type equal to CHAP.
radius		boolean optional	"true" if RADIUS is the only forced CHAP authentication policy, Default is "false".
user-name		string optional	Inbound CHAP user name, required for auth-type equal to CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-auth-get-iter

[top]

Iterate over a list of iSCSI initiator authentication configuration objects.

Input Name	Range	Type	Description

desired-attributes		iscsi-security-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-security-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI initiator authentication configuration object. All iSCSI initiator authentication configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-security-entry-info[] optional	The list of attributes of iSCSI initiator authentication configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI initiator authentication configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-initiator-auth-list-info

[top]

Gets authentication information for the specified initiator. If no initiator is specified, gets authentication information for all the known initiators. Password, if present is left out for security purposes.

Input Name	Range	Type	Description
initiator		string optional	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not supplied, all initiators are returned.

Output Name	Range	Type	Description
iscsi-security-entries		iscsi-security-entry-info[]	List of authentication entries.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
EISCSISECINITNOTFOUNDERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-delete-auth

[top]

Delete initiator from the authentication list

Input Name	Range	Type	Description
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECINITNOTFOUNDERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-get-auth

[top]

Get the authentication info for an initiator, if auth type is CHAP, only the user-name is returned, password is not returned for security purposes.

Input Name	Range	Type	Description
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not found, default authentication method is returned

Output Name	Range	Type	Description
auth-chap-policy		string optional	CHAP authentication path. Possible values: "radius", "local".
auth-type		string	Authentication type. Possible values: "CHAP", "none", "deny".
initiator-address-ranges		ip-range-or-mask[] optional	May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address. An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

outbound-user-name		string optional	Outbound CHAP user name, returned only if auth-type is CHAP and outbound authentication is enabled for this initiator.
user-name		string optional	Inbound CHAP user name, returned only if auth-type is CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-get-default-auth

[top]

Get the default authentication information for iscsi. If the authentication type is CHAP, only the username is returned, and not the password, for security purposes.

Output Name	Range	Type	Description
auth-chap-policy		string optional	CHAP authentication path. possible values: "radius", "local".
auth-type		string	Authentication type Possible values: "CHAP", "none", "deny".
outbound-user-name		string optional	Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator.
user-name		string optional	Inbound CHAP user name, returned only if auth-type is CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
EISCSISECINITNOTFOUNDERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-get-iter

[top]

Iterate over a list of remote iSCSI initiator objects.

Input Name	Range	Type	Description
		iscsi-	

desired-attributes		initiator-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-initiator-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the remote iSCSI initiator object. All remote iSCSI initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-initiator-list-entry-info[] optional	The list of attributes of remote iSCSI initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more remote iSCSI initiator objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-initiator-list-info

[top]

Gives list of initiators logged in

Output Name	Range	Type	Description
iscsi-initiator-list-entries		iscsi-initiator-list-entry-info[]	List of initiators logged in

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-modify-chap-params

[top]

Modify CHAP parameters to an existing per-initiator authentication info whose auth-type equals CHAP.

Input Name	Range	Type	Description
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". The per-initiator authentication info must have an auth-type equal to CHAP.
outbound-passphrase		string optional	Outbound CHAP user password. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used.
outbound-user-name		string optional	Outbound CHAP user name. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used.
passphrase		string optional	Inbound CHAP user password. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used.
radius		boolean optional	"true" if RADIUS is the only forced CHAP authentication policy, Default is "false".
remove-outbound		boolean optional	Flag which indicates that mutual CHAP authentication is to be converted to one-way CHAP authentication. Outbound CHAP parameters must not be specified when remove-outbound is true. The default value is false.
user-name		string optional	Inbound CHAP user name. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECINVALIDAUTHTYPE	
EISCSISECPROCESSINGERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-initiator-set-default-auth

[top]

Configure the default authentication method. If an initiator is not configured with a specific authentication method using iscsi-initiator-add-auth the default authentication method will be applied to it.

Input Name	Range	Type	Description
auth-type		string	Possible values: "CHAP", "none", "deny".
outbound-passphrase		string optional	Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
outbound-user-name		string optional	Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication.
passphrase		string optional	Inbound CHAP user password, required for auth-type equal to CHAP.
radius		boolean optional	"true" if RADIUS is the only forced CHAP authentication policy, Default is "false".
user-name		string optional	Inbound CHAP user name, required for auth-type equal to CHAP.

Errno	Description
EISCSISECINVALIDINPUTERROR	
EISCSISECPROCESSINGERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-accesslist-add

[top]

Add the iSCSI LIFs to the accesslist of the specified initiator

Input Name	Range	Type	Description
initiator		string	Initiator that can access the iSCSI LIFs
interface-name		string	iSCSI LIF Name

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-interface-accesslist-get-iter

[top]

Iterate over a list of iSCSI Interface Accesslist objects.

Input Name	Range	Type	Description
desired-		iscsi-interface-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		accesslist-entry-info optional	present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-interface-accesslist-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Interface Accesslist object. All iSCSI Interface Accesslist objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-interface-accesslist-entry-info[] optional	The list of attributes of iSCSI Interface Accesslist objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Interface Accesslist objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-interface-accesslist-remove

[top]

Remove the iSCSI LIFs from the accesslist of the specified initiator

Input Name	Range	Type	Description
initiator		string	Initiator that can access the iSCSI LIFs
interface-name		string	iSCSI LIF Name

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-interface-disable

[top]

Disables an interface for use by iSCSI

Input Name	Range	Type	Description

Input Name	Range	Type	Description
interface-name		string	Name of interface to disable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINVALIDSTATE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-enable

[top]

Enables an interface for use by iSCSI

Input Name	Range	Type	Description
interface-name		string	Name of interface to enable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINVALIDSTATE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-get-iter

[top]

Iterate over a list of iSCSI target interface objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-interface-list-entry-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		info optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-interface-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI target interface object. All iSCSI target interface objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-interface-list-entry-info[] optional	The list of attributes of iSCSI target interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI target interface objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-interface-list-info

[top]

Gives status of interface for iSCSI

Input Name	Range	Type	Description
interface-name		string optional	Name of interface to report; if not supplied, all interfaces are listed. For example: "e0c".

Output Name	Range	Type	Description
iscsi-interface-list-entries		iscsi-interface-list-entry-info[]	List of interfaces and enabled/disabled status

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-interface-modify

[top]

Modify the attributes of an iSCSI interface object.

Input Name	Range	Type	Description
interface-name		lif-name	Specifies the logical interface (LIF) name.
sendtargets-fqdn		string optional	Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets Discovery.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

iscsi-iptpgroup-create

[top]

Create a new IP-based tpgroup

Input Name	Range	Type	Description
iptpgroup-name		string	User-defined name of new target portal group; must be <= 60 bytes, and cannot end with "default" as this might conflict with names of default system portal groups (for example, "192.168.11.12_default" is not allowed)
iptpgroup-tag	**[1..256]**	integer optional	Optional target portal group tag supplied by user; if not supplied, system assigns tag.

Output Name	Range	Type	Description
iptpgroup-tag		integer	filer assigned tag value for newly created portal group

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License

iscsi

iscsi-iptpgroup-destroy

[top]

Destroy a IP-based tpgroup

Input Name	Range	Type	Description
iptpgroup-tag	**[1..256]**	integer	tag of portal group to destroy

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-iptpgroup-ipaddr-add

[top]

Add an IP Address to an IP-based target portal group

Input Name	Range	Type	Description
ip-addr		ip-address	The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12").
iptpgroup-tag	**[1..256]**	integer	portal group tag

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-iptpgroup-ipaddr-delete

[top]

Delete an IP Address from an IP-based target portal group

Input Name	Range	Type	Description
ip-addr		ip-address	The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12").
iptpgroup-tag	**[1..256]**	integer	portal group

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-iptpgroup-list-info

[top]

List information about IP-based target portal groups

Input Name	Range	Type	Description
iptpgroup-tag	**[1..256]**	integer optional	Portal group being queried; if not supplied, information on all portal groups is returned

Output Name	Range	Type	Description
iscsi-iptpgroup-list-entries		iscsi-iptpgroup-list-entry-info[]	List of iptpgroups

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-config

[top]

Configures the iSNS service. In Data ONTAP Cluster-Mode, this this API can only modify the configuration of a Vserver where an iSNS service has already been created. To create an iSNS service in a Vserver where one does not exist, use the iscsi-isns-create API.

Input Name	Range	Type	Description
force		boolean optional	iSNS config fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to "true".
isns-ip-addr		ip-address	The ip address, in dotted-decimal format, of the iSNS server with which to register. (for example, "192.168.11.12").

Errno	Description
ENOTSTARTED	
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-create

[top]

Create iSNS Service in a Vserver.

Input Name	Range	Type	Description
force		boolean optional	iSNS create fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to true.
isns-ip-addr		ip-address	iSNS server IP address.
start		boolean optional	Determine the initial state of the iSNS Client Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-isns-start to start the service. The default is true.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-isns-destroy

[top]

Destroy the iSNS Service in a Vserver.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-isns-get-info

[top]

Gets iSNS service configuration.

Output Name	Range	Type	Description
is-isns-enabled		boolean	"true" if iSNS service is running, "false" otherwise.
isns-entity-id		string	Name of the entity id existing on the iSNS server in which to register.
isns-ip-addr		ip-address	The ip address of the iSNS server in which we register.
last-successful-update		integer optional	Last successful iSNS update time in seconds since January 1, 1970.
last-update-attempt		integer optional	Last iSNS update attempt time in seconds since January 1, 1970.
last-update-result		string optional	Result of the last iSNS update.

Errno	Description
ENOTSTARTED	
EAPILICENSE	
EAPIERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-get-iter

[top]

Gets iSNS service configuration.

Input Name	Range	Type	Description
desired-attributes		iscsi-isns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-**	integer	The maximum number of records to return in this call. Default: 20

	1]	optional	
query		iscsi-isns-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI iSNS Service object. All iSCSI iSNS Service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-isns-info[] optional	The list of attributes of iSCSI iSNS Service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI iSNS Service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-isns-start

[top]

Start iSNS service. The service will be available once the call returns with success.

Errno	Description
EALREADYSTARTED	
EAPILICENSE	
ENOTSTARTED	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-stop

[top]

Stops iSNS service. Service will not be available once the call returns with success.

Errno	Description
ENOTSTARTED	
EAPILICENSE	

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-isns-update

[top]

Forces iSNS service to update server.

Errno	Description
ENOTSTARTED	
EAPILICENSE	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-node-get-name

[top]

Return the current iscsi node name.

Output Name	Range	Type	Description
node-name		string	Current iscsi node name.

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-node-set-name

[top]

Set the current iscsi node name.

Input Name	Range	Type	Description
node-name		string	New iscsi node name; must be <= 128 chars, and conform to iSCSI rules

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EVDISK_ERROR_DUPLICATE_TARGET_NAME	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-portal-list-info

[top]

list iscsi portals

Output Name	Range	Type	Description
iscsi-portal-list-entries		iscsi-portal-list-entry-info[]	List of portals

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-reset-stats

[top]

zero filer iscsi counters

Errno	Description
EAPILICENSE	

License
iscsi

iscsi-service-create

[top]

Create an iSCSI Service in a Vserver. Each Vserver requires an online iSCSI Service in order to serve data via the iSCSI protocol.

Input Name	Range	Type	Description
alias-name		string optional	The iSCSI target alias for the iSCSI service. If not provided, the Vserver name will be used.
node-name		string optional	The iSCSI target name for the Vserver. The target-name must conform to RFC 3720. If not provided, one will be auto-generated.
start		boolean optional	Determine the initial state of the iSCSI Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-service-start to start the service. The default is true.

Output Name	Range	Type	Description
node-name		string	The new iSCSI target name for the Vserver.

Errno	Description
EINTERNALERROR	
EONTAPI_EINVAL	
EVDISK_ERROR_DUPLICATE_TARGET_NAME	
EONTAPI_EEXIST	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-service-destroy

[top]

Destroy the iSCSI Service in a Vserver.

Errno	Description
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-service-get-iter

[top]

Iterate over the list of iSCSI Services.

Input Name	Range	Type	Description
desired-attributes		iscsi-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-service-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Service object. All iSCSI Service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-service-info[] optional	The list of attributes of iSCSI Service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Service objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-service-modify

[top]

Modify an iSCSI Service in a Vserver.

Input Name	Range	Type	Description
login-timeout		integer optional	Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Range: [5..120].
max-cmds-per-session		integer optional	Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Range: [4..256].
max-conn-per-session		integer optional	Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Range: [1..32].
max-error-recovery-level		integer optional	(DEPRECATED)-Maximum error recovery level. The possible values are: • 0 - session failure recovery. • 1 - digest failure recovery. • 2 - connection failure recovery. This field is DEPRECATED; updates are ignored and have no effect.
retain-timeout		integer optional	Default time-to-retain value in secconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Range: [1,.120].

tcp-window-size		integer optional	TCP receive window size in bytes. Range: [8760..262800].

Errno	Description
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
iSCSI

iscsi-service-start

[top]

Start iSCSI service. The service will be available once the call returns with success.

Errno	Description
EALREADYSTARTED	
EINTERNALERROR	
EREVERTINPROGRESS	
EVSERVERNOTRUNNING	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-service-status

[top]

Get status of the iSCSI service, whether or not it is running.

Output Name	Range	Type	Description
is-available		boolean	"true" if iSCSI service is running, "false" otherwise.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-service-stop

[top]

Stops iSCSI service. Service will be not be available once the call returns with success.

Errno	Description
ENOTSTARTED	
EINTERNALERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-session-get-iter

[top]

Iterate over a list of iSCSI session objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-session-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-session-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI session object. All iSCSI session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-session-list-entry-info[]	The list of attributes of iSCSI session objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-session-list-info

[top]

Gives list of active sessions

Input Name	Range	Type	Description
tsih		integer optional	target session ID handle for specific session

Output Name	Range	Type	Description
iscsi-session-list-entries		iscsi-session-list-entry-info[]	List of active sessions

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-stats-get-iter

[top]

Iterate over a list of iscsi objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iscsi object. All iscsi objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for the

tag		string optional	first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		iscsi-stats-info[] optional	The list of attributes of iscsi objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iscsi objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-stats-list-info

[top]

return current filer iscsi statistics

Output Name	Range	Type	Description
iscsi-stats		iscsi-stats-info[]	statistics for iscsi

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-target-alias-clear-alias

[top]

Clear the current iscsi target alias

Errno	Description
EAPILICENSE	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-target-alias-get-alias

[top]

Return the current iscsi target alias

Output Name	Range	Type	Description
alias-name		string optional	Current iscsi target alias if alias-assigned is true.
is-alias-assigned		boolean	True if alias assigned, false otherwise.

Errno	Description
EAPILICENSE	

Vfiler-enabled
Yes

License
iscsi

iscsi-target-alias-set-alias

[top]

Set the current iscsi target alias

Input Name	Range	Type	Description
alias-name		string	New iscsi target alias to set; must be 128 bytes or less. Free form format otherwise, although a string of all blanks will be rejected

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-alua-set

[top]

Change the ALUA parameters on a tpgroup Asymmetric Logical Unit Access (ALUA) management Data ONTAP supports SCSI ALUA functionality for managing multi-pathed SCSI devices. ALUA provides a standardized mechanism for path discovery and prioritization. Devices are identified by target port IDs, which are then grouped into target port groups. Each group has a state which, when configured,

enables the host multipathing software to select the appropriate path priorities when accessing a LUN. For iSCSI, ALUA settings are controlled at the target portal group level using the "iscsi-tpgroup-alua-set" ZAPI. A target portal group can be configured to be either "optimized" or "non-optimized"; a host typically uses all the optimized paths before using any non-optimized paths it may find. All target portal groups are optimized by default. There is also an optional "preferred" setting that may be used on a target portal group. Check your host's multi-pathing software documentation to see if it supports ALUA and the preferred setting. ALUA is enabled on Initiator Groups using the "igroup-set-attribute" ZAPI. All LUNs mapped to an ALUA enabled Initiator Group will support the ALUA functionality.

Input Name	Range	Type	Description
tpgroup-alua-preferred		boolean	If "true", target portal group will be marked as preferred for ALUA enabled Initiator Groups
tpgroup-alua-state		string	Possible values: "optimized", "non-optimized"
tpgroup-tag		integer	portal group

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	

License
iscsi

iscsi-tpgroup-create

[top]

Create a new user defined target portal group.

Input Name	Range	Type	Description
tpgroup-name		string	Name of new user defined target portal group. Name must be <= 32 characters. In Data ONTAP 7-Mode, user defined target portal group names cannot end with "default" as this would conflict with names of default target portal groups. In Data ONTAP Cluster-Mode, user defined target portal groups cannot use the name of any defined logical interfaces (LIFs) in the vserver as this would conflict with names of default target portal groups.
tpgroup-tag	**[0..65535]**	integer optional	Optional target portal group tag supplied by user. Default value is system generated.

Output Name	Range	Type	Description
tpgroup-tag	**[0..65535]**	integer	New target portal group tag.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
EINTERNALERROR	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-destroy

[top]

Destroy a tpgroup. Only user defined target portal groups may be destroyed.

Input Name	Range	Type	Description
tpgroup-tag	[0..65535]	integer	Tag of portal group to destroy.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-get-iter

[top]

Iterate over a list of iSCSI Target Portal Group objects.

Input Name	Range	Type	Description
desired-attributes		iscsi-tpgroup-list-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		iscsi-tpgroup-list-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Target Portal Group object. All iSCSI Target Portal Group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		iscsi-tpgroup-	

attributes-list		list-entry-info[] optional	The list of attributes of iSCSI Target Portal Group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more iSCSI Target Portal Group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

iscsi-tpgroup-interface-add

[top]

Add an interface to a target portal group. Interfaces may only be added to a user defined target portal group.

Input Name	Range	Type	Description
interface-name		string	Name of network interface to add. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
tpgroup-tag	**[0..65535]**	integer	Target portal group tag.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-interface-delete

[top]

Remove an interface from a target portal group. Interfaces may only be removed from a user defined target portal group. Removing an interface will return it to the system defined default group for the interface.

Input Name	Range	Type	Description
interface-name		string	Name of network interface to remove. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1" In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
tpgroup-tag	**[0..65535]**	integer	Target portal group tag.

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

License
iscsi

iscsi-tpgroup-list-info

[top]

List information about target portal groups

Input Name	Range	Type	Description
tpgroup-tag		integer optional	Portal group being queried; if not supplied, information on all portal groups is returned

Output Name	Range	Type	Description
iscsi-tpgroup-list-entries		iscsi-tpgroup-list-entry-info[]	List of tpgroups

Errno	Description
EAPILICENSE	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
iscsi

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

Element definition: **iscsi-adapter-initiators-info**

[top]

A list of initiators currently connected to the adapter.

Name	Range	Type	Description
iscsi-connected-initiators		iscsi-connected-initiator-info[]	Information about the connected initiators
name		string	The name this adapter is given.

Element definition: **iscsi-config-adapter-info**

[top]

Configuration information about a single iscsi adapter.

Name	Range	Type	Description
name		string	The name this adapter is given.
portal-addresses		iscsi-portal-address-info[]	A list of portal group address + port that this adapter is listening on.
state		string	State of the adapter, either "online", "offline", "local", "partner" or "error". "online" and "offline" are used when the adapter is used for the current host. "local" is used if the adapter is operating on behalf of the local host, and "partner" is used if the adapter is operating on behalf of the partner host. "error" is used if an internal error occurred while retrieving the adapter information.
status		string optional	A short status message explaining the state. i.e. if the adapter is offline, the reason for it, or if its "error" what the error is. This will not be returned if the state of the adapter is "online".

Element definition: **iscsi-connection-list-entry-info**

[top]

Information about an iSCSI connection. In Data ONTAP 7-Mode, connections are uniquely identified by the combination of 'session-id' and 'connection-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name', 'session-id' and 'connection-id'.

Name	Range	Type	Description
connection-id	**[0..65535]**	integer	Connection id
			Current state of this connection. Possible values: • "New_Connection",

connection-state		string	• "Waiting_Tpgtag_Assignment", • "Login_Waiting_Req", • "Login_Req_Rcvd", • "Login_Waiting_Auth", • "Login_OK_New_Session_Requested", • "Login_New_Session_Waiting_Reinstatement", • "Login_OK_New_Conn_Requested", • "Login_New_Conn_Waiting_Reinstatement", • "Login_Send_Final_Resp", • "Full_Feature_Phase", • "Shutdown_Start", • "Shutdown_Waiting_Sockio_Shutdown", • "Shutdown_Sockio_Shutdown_Done", • "Shutdown_Waiting_ImmDeliv_FFPCmds_Done", • "Shutdown_ImmDeliv_FFPCmds_Done", • "Shutdown_Recovery_Waiting_FFPCmds_Ready", • "Shutdown_Recovery_Waiting_Logout_Rcvd", • "Shutdown_Recovery_Logout_Rcvd", • "Shutdown_Recovery_Waiting_FFPCmds_Reassigned", • "Shutdown_Terminate_Abort_Seq_FFPCmds", • "Shutdown_Terminate_Waiting_Seq_FFPCmds_Done", • "Shutdown_Terminate_Seq_FFPCmds_Done".
has-session		boolean	True if this connection is associated to a session, false otherwise.
interface-name		string	Name of the network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
local-ip-address		string	Storage System iSCSI Target IP address.
local-ip-port	**[0..65535]**	integer	Storage System iSCSI Target TCP port.
remote-ip-address		string	Remote initiator IP address.
remote-ip-port	**[0..65535]**	integer	Remote initiator TCP port.
session-id	**[0..65535]**	integer	Session id for the associated session, or 0 if this connection is not yet associated to a session.
tpgroup-name		string	The name of the target portal group associated with this session.
tpgroup-tag	**[0..65535]**	integer	The tag of the target portal group associated with this session.
vserver		string	Name of the vserver containing this connection.

Element definition: **iscsi-initiator-list-entry-info**

[top]

Information about a single initiator.

Name	Range	Type	Description
initiator-aliasname		string optional	User-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login.
initiator-		initiator-group-list-	List of initiator groups containing this iSCSI initiator.

group-list		info[] optional	
initiator-nodename		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".
isid		string	ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00".
target-session-id	**[0..65535]**	integer	iSCSI session identifier assigned by the target.
tpgroup-name		string	The name of the target portal group associated with this session.
tpgroup-tag	**[0..65535]**	integer	Tag of target portal group associated with this session.
vserver		string	Name of the vserver this initiator is connected to.

Element definition: **iscsi-interface-accesslist-entry-info**

[top]

Information about a single accesslist entry When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
initiator		string optional	Initiator that can access the iSCSI LIFs Attributes: key, non-creatable, non-modifiable
interface-name		string optional	iSCSI LIF Name Attributes: key, non-creatable, non-modifiable
vserver		string optional	Vserver hosting the iSCSI LIF Attributes: key, non-creatable, non-modifiable

Element definition: **iscsi-interface-list-entry-info**

[top]

Information about a single interface

Name	Range	Type	Description
current-node		string	Name of the node currently hosting the LIF.
current-port		string	Name of the physical ethernet interface currently hosting the LIF.
interface-name		string	Name of interface. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
ip-address		string	iSCSI target portal IP address.
ip-port	**[0..65535]**	integer	iSCSI target portal TCP port.

is-interface-enabled		boolean	"true" if interface enabled for iSCSI, "false" otherwise.
relative-port-id	**[1..65535]**	integer	The SCSI Relative Target Port Identifier of the LIF.
sendtargets-fqdn		string optional	Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets discovery. If unset, the IP address of the LIF is used instead.
tpgroup-name		string	Name of target portal group interface is associated with.
tpgroup-tag	**[0..65535]**	integer	Id of target portal group interface is associated with.
vserver		string optional	The name of the vserver containing this iSCSI data LIF.

Element definition: **iscsi-iptpgroup-list-entry-info**

[top]

Information about a single portal group

Name	Range	Type	Description
ipaddress-list-entries		ipaddress-list-entry-info[]	List of IP Addresses associated with this iptpgroup
tpgroup-name		string	Portal group name
tpgroup-tag		integer	Portal group tag

Element definition: **iscsi-isns-info**

[top]

iSCSI iSNS Service Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-isns-enabled		boolean optional	true if the iSNS Service is running, false otherwise. Attributes: optional-for-create, non-modifiable
isns-entity-id		string optional	Entity id existing on the iSNS server Attributes: non-creatable, non-modifiable
isns-ip-addr		ip-address optional	iSNS server IP address. Attributes: required-for-create, modifiable
last-successful-update		integer optional	Last successful iSNS update time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
last-update-attempt		integer optional	Last iSNS update attempt time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable

last-update-result		string optional	Result of the last iSNS update. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver hosting the iSNS service. Attributes: key, non-creatable, non-modifiable

Element definition: **iscsi-portal-list-entry-info**

[top]

information about a single portal

Name	Range	Type	Description
interface-name		string	Name of network interface exporting this portal
ip-address		string	portal IP address
ip-port	**[0..65535]**	integer	portal listening port
tpgroup-tag	**[0..65535]**	integer	tag of portal group this portal is associated with

Element definition: **iscsi-security-entry-info**

[top]

Information about a single authentication entry.

Name	Range	Type	Description
auth-chap-policy		string optional	CHAP authentication path. Possible values: "local", "radius".
auth-type		string	Authentication type. Possible values: "CHAP", "none", "deny".
initiator		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346", or "default" if this is a default auth entry.
initiator-address-ranges		ip-range-or-mask[] optional	May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address. An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.
outbound-user-name		string optional	Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator.
user-name		string optional	Inbound CHAP user name, returned only if auth-type is CHAP.
vserver		string	Vserver containing this authentication information.

Element definition: **iscsi-service-info**

[top]

iSCSI Target Service Configuration. When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alias-name		string optional	The iSCSI target alias of the Vserver. Attributes: optional-for-create, modifiable
is-available		boolean optional	true if the iSCSI Service is running, false otherwise. Attributes: non-creatable, non-modifiable
login-timeout	**[5..120]**	integer optional	Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Attributes: optional-for-create, modifiable
max-cmds-per-session	**[4..256]**	integer optional	Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable
max-conn-per-session	**[1..32]**	integer optional	Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable
max-error-recovery-level	**[0..2]**	integer optional	(DEPRECATED)-Maximum error recovery level. The possible values are: • 0 - session failure recovery. • 1 - digest failure recovery. • 2 - connection failure recovery. Attributes: optional-for-create, modifiable
node-name		string optional	The iSCSI target name of the Vserver. Attributes: optional-for-create, modifiable
retain-timeout	**[1..120]**	integer optional	Default time-to-retain value in seconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Attributes: optional-for-create, modifiable
tcp-window-size	**[8760..262800]**	integer optional	TCP receive window size in bytes. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver hosting the iSCSI service. Attributes: key, non-creatable, non-modifiable

Element definition: **iscsi-session-list-entry-info**

[top]

Information about a single iSCSI session. In Data ONTAP 7-Mode, sessions are uniquely identified by the 'target-session-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name' and 'target-session-id'.

Name	Range	Type	Description
cmd-window-size	**[0..2^31-1]**	integer	The maximum number of I/O operations per session. This field has been superseded by max-ios-per-session starting with Data ONTAP 8.3 and is retained for compatibility.

data-pdu-in-order		boolean	The DataPDUInOrder of the session as defined in RFC 3720.
data-sequence-in-order		boolean	The DataSequenceInOrder of the session as defined in RFC 3720.
default-time-to-retain	**[0..3600]**	integer	The DefaultTime2Retain of the session as defined in RFC 3720, in seconds.
default-time-to-wait	**[0..3600]**	integer	The DefaultTime2Wait of the session as defined in RFC 3720, in seconds.
error-recovery-level	**[0..2]**	integer	iSCSI ErrorRecoveryLevel as defined in RFC 3720.
first-burst-length	**[512..2^24-1]**	integer	The FirstBurstLength of the session as defined in RFC 3720, in bytes.
immediate-data-enabled		boolean	True if this session has immediate data enabled, false otherwise.
initial-r2t-enabled		boolean	True if this session has R2T enabled, false otherwise.
initiator-aliasname		string optional	The user-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login.
initiator-nodename		string	Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346".
iscsi-session-connection-list-entries		iscsi-session-connection-list-entry-info[] optional	List of TCP/IP connections associated with this session.
iscsi-sesssion-cmd-list-entries		iscsi-sesssion-cmd-list-entry-info[] optional	List of active commands associated with this session
isid		string	ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00".
max-burst-length	**[512..2^24-1]**	integer	The MaxBurstLength of the session as defined in RFC 3720, in bytes.
max-connections	**[0..65535]**	integer	Maximum number of connections for this session.
max-ios-per-session	**[0..2^31-1]**	integer	The maximum number of I/O operations per session. This field is available in Data ONTAP 8.3 and later.
max-outstanding-r2t	**[1..65535]**	integer	The MaxOutstandingR2T of the session as defined in RFC 3720.
session-type		string	Possible values: "normal" or "discovery".
target-session-id	**[0..65535]**	integer	The iSCSI session identifier assigned by the storage system.
tpgroup-name		string	The name of the target portal group associated with this session.
tpgroup-tag	**[0..65535]**	integer	The tag of the target portal group associated with this session.
vserver		string	The name of the vserver containing this session.

Element definition: **iscsi-stats-info**

[top]

Statistics block

Name	Range	Type	Description
iscsi-cdb-stats		iscsi-cdb-stats-info	Statistics of Command Descriptor Blocks.
iscsi-error-stats		iscsi-error-stats-info	Statistics of errors.
iscsi-received-stats		iscsi-received-stats-info	Statistics of PDUs received.
iscsi-transmitted-stats		iscsi-transmitted-stats-info	Statistics of PDUs transmitted.
vserver		string	Vserver hosting the iSCSI service.

Element definition: **iscsi-tpgroup-list-entry-info**

[top]

Information about a single portal group

Name	Range	Type	Description
interface-list-entries		interface-list-entry-info[] optional	List of interfaces associated with this tpgroup.
is-user-defined		boolean	True if the target portal group is user defined, false if the target portal group is system defined.
tpgroup-alua-preferred		boolean optional	True if target portal group is the preferred group for ALUA enabled initiator groups, false otherwise.
tpgroup-alua-state		string optional	Possible values: "optimized", "non-optimized".
tpgroup-name		string	Portal group name.
tpgroup-tag		integer	Portal group tag.
vserver		string optional	Vserver containing this target portal group.

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

Name	Range	Type	Description
initiator-group-name		string	Name of initiator group.

Element definition: **interface-list-entry-info**

[top]

Information about a single interface

Name	Range	Type	Description
interface-name		string	Name of network interface. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif0". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

Element definition: **ipaddress-list-entry-info**

[top]

Information about a single IP Address

Name	Range	Type	Description
ip-address		string	IP address

Element definition: **iscsi-cdb-stats-info**

[top]

Counts for Command Descriptor Blocks processed

Name	Range	Type	Description
data-in-blocks		integer	Count of data in blocks.
data-out-blocks		integer	Count of data out blocks.

error-status		integer	Count of errors.
success-status		integer	Count of successes.
total		integer	Total Command Descriptor Blocks processed.

Element definition: **iscsi-connected-initiator-info**

[top]

Information about an initiator connected to an iSCSI adapter.

Name	Range	Type	Description
initiator-name		string	Name of initiator.
isid		string	ISID in form of "xx:xx:xx:xx:xx:xx".
portal-group-id		integer	Target portal group number to which the initiator is connected.

Element definition: **iscsi-error-stats-info**

[top]

Counts for iSCSI errors.

Name	Range	Type	Description
data-digest		integer	Count of digest errors.
failed-logins		integer	Count of failed logins.
failed-logouts		integer	Count of failed logouts.
failed-task-mgt		integer	Count of failed management tasks.
failed-text-cmd		integer	Count of failed text commands.
hdr-digest		integer	Count of digest errors.
invalid-header		integer	Count of PDU discards due to invalid PDU header.
outside-cmd-sn-window		integer	Count of PDU discards due to PDU being outside of command sequence number window.
protocol		integer	Count of protocol errors.
total		integer	Total errors.

Element definition: **iscsi-portal-address-info**

[top]

Configuration information about an inet-address and port pair for a portal group.

Name	Range	Type	Description
id		integer	ID of this portal group.
inet-address		ip-address	inet-address.
port		integer	The port that is being listened on for that address.

Element definition: **iscsi-received-stats-info**

[top]

Counts for PDUs received.

Name	Range	Type	Description
data-out		integer	Count of data out requests.
login-req		integer	Count of login requests.
logout-req		integer	Count of logout requests.
nop-out		integer	Count of NOP Out.
scsi-cmd		integer	Count of SCSI commands.
scsi-task-mgt-cmd		integer	Count of SCSI task management commands.
snack		integer	Count of SNACK requests.
text-req		integer	Count of text requests.
total		integer	Total PDUs received.
unknown		integer	Count of unknown PDUs.

Element definition: **iscsi-session-connection-list-entry-info**

[top]

Information about a single tcp connection

Name	Range	Type	Description
authentication-method		string	Authentication method of this connection. Possible values: "CHAP", "none".
connection-id	**[0..65535]**	integer	Connection id within the session.
data-digest-enabled		boolean	True if data digests are enabled on this connection, false otherwise.
header-digest-enabled		boolean	True if header digests are enabled on this connection, false otherwise.
initiator-max-rcv-data-segment-length	**[512..2^24-1]**	integer	Initiator's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes.
interface-name		string	Name of network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver.
local-ip-address		string	Local storage system iSCSI target interface address.
local-ip-port	**[0..65535]**	integer	Local storage system iSCSI target TCP port.
rcv-window-size	**[0..2^30]**	integer	TCP/IP receive window size, in octets.
remote-ip-address		string	Remote initiator IP address.
remote-ip-port	**[0..65535]**	integer	Remote initiator TCP port.
target-max-rcv-data-segment-length	**[512..2^24-1]**	integer	Target's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes.

Element definition: **iscsi-sesssion-cmd-list-entry-info**

[top]

information about a particular command

Name	Range	Type	Description
cmd-state		string	State of iSCSI command. Possible values: • "FREE" - Free, • "Logout_Begin" - Logout - Begin, • "Logout_Wait_For_Other_Conn" - Logout - Wait For Other Conn, • "Logout_Build_and_Send_Resp" - Logout - Build and Send Resp, • "Logout_Waiting_StatSN_ACK" - Logout - Waiting StatSN ACK, • "Logout_Done" - Logout - Done, • "Nopout_Begin" - Nopout - Begin, • "Nopout_Build_And_Send_Resp" - Nopout - Build And Send Resp, • "Nopout_Waiting_Resp_Sockio_Comp" - Nopout - Waiting Resp Sockio Comp, • "Nopout_Resp_Sockio_Comp" - Nopout - Resp Sockio Comp, • "Nopout_Waiting_StatSN_ACK" - Nopout - Waiting StatSN ACK, • "Nopout_Done" - Nopout - Done, • "Taskmgmt_Begin" - Taskmgmt - Begin, • "Taskmgmt_Waiting_FFPCmds_Rcvd" - Taskmgmt - Waiting FFPCmds Rcvd, • "Taskmgmt_FFPCmds_Rcvd" - Taskmgmt - FFPCmds Rcvd, • "Taskmgmt_Waiting_FFPCmds_Complete" - Taskmgmt - Waiting FFPCmds Complete, • "Taskmgmt_Build_And_Send_Resp" - Taskmgmt - Build And Send Resp, • "Taskmgmt_Waiting_StatSN_ACK" - Taskmgmt - Waiting StatSN ACK, • "Taskmgmt_Done" - Taskmgmt - Done, • "Text_Begin" - Text - Begin, • "Text_Waiting_Portal_List_Notify" - Text - Waiting Portal List Notify, • "Text_Build_And_Send_Resp" - Text - Build And Send Resp, • "Text_Waiting_Resp_Sockio_Comp" - Text - Waiting Resp Sockio Comp, • "Text_Resp_Sockio_Comp" - Text - Resp Sockio Comp, • "Text_Waiting_StatSN_ACK" - Text - Waiting StatSN ACK, • "Text_Done" - Text - Done, • "Scsicdb_Begin" - Scsicdb - Begin, • "Scsicdb_Claim_Early_Udata" - Scsicdb - Claim Early Udata, • "Scsicdb_Waiting_Udata_Rcvd" - Scsicdb - Waiting Udata Rcvd, • "Scsicdb_Udata_Rcvd" - Scsicdb - Udata Rcvd, • "Scsicdb_Ready_For_STSubmit" - Scsicdb - Ready For STSubmit, • "Scsicdb_Udata_Not_Rcvd" - Scsicdb - Udata Not Rcvd, • "Scsicdb_Udata_Waiting_Task_Reassignment" - Scsicdb - Udata Waiting Task Reassignment, • "Scsicdb_Udata_Task_Reassigned" - Scsicdb - Udata Task Reassigned, • "Scsicdb_Waiting_STLayer" - Scsicdb - Waiting STLayer, • "Scsicdb_RD_STLayer_Called" - Scsicdb - RD STLayer Called, • "Scsicdb_RD_Build_And_Send_R2T" - Scsicdb - RD Build And Send R2T, • "Scsicdb_RD_Waiting_Burst" - Scsicdb - RD Waiting Burst, • "Scsicdb_RD_Burst_Rcvd" - Scsicdb - RD Burst Rcvd, • "Scsicdb_RD_Done" - Scsicdb - RD Done, • "Scsicdb_RD_Burst_Not_Rcvd" - Scsicdb - RD Burst Not Rcvd, • "Scsicdb_RD_Waiting_Task_Reassignment" - Scsicdb - RD Waiting Task Reassignment,

			• "Scsicdb_RD_Task_Reassigned" - Scsicdb - RD Task Reassigned, • "Scsicdb_SD_STLayer_Called" - Scsicdb - SD STLayer Called, • "Scsicdb_SD_XDI_Done" - Scsicdb - SD XDI Done, • "Scsicdb_SD_Waiting_DataSN_ACK" - Scsicdb - SD Waiting DataSN ACK, • "Scsicdb_SD_Done" - Scsicdb - SD Done, • "Scsicdb_SD_SNACK_Rcvd" - Scsicdb - SD SNACK Rcvd, • "Scsicdb_SD_Task_Reassigned" - Scsicdb - SD Task Reassigned, • "Scsicdb_SR_STLayer_Called" - Scsicdb - SR STLayer Called, • "Scsicdb_SR_Build_And_Send_Resp" - Scsicdb - SR Build And Send Resp, • "Scsicdb_SR_Waiting_StatSN_ACK" - Scsicdb - SR Waiting StatSN ACK, • "Scsicdb_SR_Done" - Scsicdb - SR Done, • "Scsicdb_SR_SNACK_Rcvd" - Scsicdb - SR SNACK Rcvd, • "Scsicdb_SR_Task_Reassigned" - Scsicdb - SR Task Reassigned, • "Scsicdb_SR_XDI_Done" - Scsicdb - SR XDI Done, • "Scsicdb_SDR_STLayer_Called" - Scsicdb - SDR STLayer Called, • "Scsicdb_SDR_XDI_Done" - Scsicdb - SDR XDI Done, • "Scsicdb_SDR_Waiting_StatSN_ACK" - Scsicdb - SDR Waiting StatSN ACK, • "Scsicdb_SDR_Done" - Scsicdb - SDR Done, • "Scsicdb_SDR_SNACK_Rcvd" - Scsicdb - SDR SNACK Rcvd, • "Scsicdb_SDR_Task_Reassigned" - Scsicdb - SDR Task Reassigned, • "Scsicdb_Abort_Begin" - Scsicdb - Abort Begin, • "Scsicdb_Abort_Build_And_Send_Resp" - Scsicdb - Abort Build And Send Resp, • "Scsicdb_Abort_Waiting_StatSN_ACK" - Scsicdb - Abort Waiting StatSN ACK, • "Scsicdb_Abort_Done" - Scsicdb - Abort Done, • "Scsicdb_Abort_SNACK_Rcvd" - Scsicdb - Abort SNACK Rcvd, • "Scsicdb_Abort_Task_Reassigned" - Scsicdb - Abort Task Reassigned, • "Scsicdb_Abort_XDI_Done" - Scsicdb - Abort XDI Done, • "Scsicdb_QFull_Begin" - Scsicdb - QFull Begin, • "Scsicdb_QFull_Build_And_Send_Resp" - Scsicdb - QFull Build And Send Resp, • "Scsicdb_QFull_Waiting_StatSN_ACK" - Scsicdb - QFull Waiting StatSN ACK, • "Scsicdb_QFull_Done" - Scsicdb - QFull Done, • "Scsicdb_XDI_Start" - Scsicdb - XDI Start, • "Scsicdb_XDI_Waiting_Data_In_Sockio_Comp" - Scsicdb - XDI Waiting Data In Sockio Comp, • "Scsicdb_Waiting_Scsitgt_Abort" - Scsicdb - Waiting Scsitgt Abort, • "Done" - Done.
cmd-sub-id	**[0..2^32-1]**	integer	Variety specific sub-id.
cmd-type		string	Type of command being executed. Possible values: • "Seq", • "ITM", • "Oth", • "UNK".

Element definition: **iscsi-transmitted-stats-info**

[top]

Counts for PDUs transmitted.

Name	Range	Type	Description
async-msg		integer	Count of asynchronous iSCSI messages.
data-in		integer	Count of data in PDUs.
login-rsp		integer	Count of login responses.
logout-rsp		integer	Count of logout responses.
nop-in		integer	Count of NOP In.
ready-to-transmit		integer	Count of ready to transmit PDUs
reject		integer	Count of reject PDUs.
scsi-rsp		integer	Count of scsi responses.
scsi-task-mgt-rsp		integer	Count of scsi task management responses.
text-rsp		integer	Count of text responses.
total		integer	Total PDUs transmitted.

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

APIs in Category: **job**

job-by-node-get
job-by-node-get-iter
job-completed-get
job-completed-get-iter
job-get
job-get-iter
job-history-get
job-history-get-iter
job-pause
job-pause-iter
job-private-completed-get
job-private-completed-get-iter
job-private-get
job-private-get-iter
job-private-pause
job-private-pause-iter
job-private-resume
job-private-resume-iter
job-private-soft-pause
job-private-soft-pause-iter
job-private-stop
job-private-stop-iter
job-queue-config-get
job-queue-config-modify
job-resume
job-resume-iter
job-schedule-cron-create
job-schedule-cron-destroy
job-schedule-cron-destroy-iter
job-schedule-cron-get
job-schedule-cron-get-iter
job-schedule-cron-modify
job-schedule-get
job-schedule-get-iter
job-schedule-interval-create
job-schedule-interval-destroy
job-schedule-interval-destroy-iter
job-schedule-interval-get
job-schedule-interval-get-iter
job-schedule-interval-

Cluster management requires that certain operations run reliably, asynchronously and on particular schedules. These 'jobs' offer these benefits to the work they manage:

- Guaranteed execution, even in the face of node failure or reboot.
- Cluster-wide or node-specific scheduling. This permits jobs to execute where it makes the most sense.
- Flexible scheduling as a one time event, on regular intervals or coordinated to specific calendar dates.

On their exterior, jobs are a fundamentally simple concept. A job is a task that executes at a specific time. Around this idea, there are extended attributes that control if the job will be automatically re-scheduled upon completion, survive major system failures, run under which priority and so on. But in a healthy cluster with little activity, all jobs appear very similarly. The job APIs are generally comprised of those that enumerate and act upon jobs in the system and those that allow schedule customization. It should be noted that there are no APIs that allow one to explicitly create jobs. This is intentional as jobs are used to manage internal system workload. Jobs are responsible for activities like moving a volume, scanning for viruses or automatically taking snapshots as opposed to being a generic administrative process scheduler.

Every job is described specifically by its type, id, affinity, visibility and schedule. Both the job type and id are represented by unique universal identifiers (UUIDs). All jobs of a given type will perform the same task, usually with different runtime data. For instance a volume move operation is one type of job, but can be used for many different volumes. Job id is a specific instance of a job type. In the example above three different volume move jobs would have the same type but three different job ids. Jobs are also sometimes identified by a monotonically increasing numeric value, although this is often just a shorthand notation for the UUID. Affinity describes whether a job may be scheduled for execution on any node in the cluster (cluster) or must be tied to a specific compute instance (node). Visibility dictates whether a job's state is stored in the cluster-wide replicated database (public) or only on the node on which it is scheduled for execution (private). Finally a job schedun abstract concept like when the system starts up or based upon a calendar date or interval between executions of the same job.

Jobs always execute as small state machines with a definitive current state as well as a specific list of states the job may enter at any point in time. A job can be in one of the following states:

- Initial - job has been created but not queued yet
- Queued - job is in the queue; it could be ready to run immediately or it may be scheduled to run at a later time
- Running - the job has been picked by an instance of the Job Manager and is running
- Waiting - the job is waiting for another job to complete
- Pausing - the job is in the process of pausing after being

modify
job-soft-pause
job-soft-pause-iter
job-stop
job-stop-iter

requested to pause
- Paused - the job is indefinitely paused
- Quitting - the job has been requested to terminate and it is shutting down
- Success - the job has successfully completed and the results are available
- Failure - the job has failed
- Reschedule - the job is being re-scheduled
- Error - internal error occurred
- Quit - the job has been requested to terminate
- Dead - the job exceeded the drop dead time and is being removed from the queue
- Unknown - the state of the job is unknown
- Restart - the job is restartable
- Dormant - the job is inactive while waiting on some external event

Internally, the job execution engine organizes jobs of similar states into common queues. Queues are processed according to the rules of the state. For example, jobs in the wait queue are only periodically checked to determine if their waiting condition is met, whereas jobs in the running queue are actively processed as CPU capacity permits.

These APIs allow for job enumeration, schedule creation and low-level management. The most common enumeration APIs are job-get, job-private-get and job-history-get, while the more specific APIs like job-by-node-get act on a subset of the job-get result set once it has been suitable filtered and/or sorted.

Schedules may either occur at well-defined calendar dates or on a given interval between job executions. Use of the low-level APIs should be attempted with care as they can cause the jobs to behave abnormally or fail.

job-by-node-get

[top]

Get a single job entry. This is just a performance optimization for job-get that only searches for the job among the ones currently owned by the given node.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	The job id.
job-node		node-name	The name of the node where the job is run.

Output Name	Range	Type	Description
attributes		job-info	The attributes of the job-by-node entry.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	

job-by-node-get-iter

[top]

Get multiple job records organized by node. This is just a performance optimization for job-get-iter that only searches for the job among the ones currently owned by the given node.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-by-node entry object. All job-by-node entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of job-by-node entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-by-node entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-completed-get

[top]

Get a single completed job entry. This is just a performance optimization for job-get.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	Job ID

Output Name	Range	Type	Description

attributes		job-info	The attributes of the job completed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-completed-get-iter

[top]

Get multiple completed job records. This is just a performance optimization for job-get-iter.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job completed object. All job completed objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of job completed objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job completed objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-get

[top]

Get a single job entry.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	The job id.

Output Name	Range	Type	Description
attributes		job-info	The attributes of the job.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-get-iter

[top]

Get multiple job records.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job object. All job objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of job objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-history-get

[top]

Get a single job history event.

Input Name	Range	Type	Description
desired-attributes		job-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

job-node		node-name	The name of the node where the job ran, or the node that changed the job's state.
log-id	**[0..2^64-1]**	integer	The internal identifier of this job history event.

Output Name	Range	Type	Description
attributes		job-history-info	The attributes of the job history event.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-history-get-iter

[top]

Get multiple job history records.

Input Name	Range	Type	Description
desired-attributes		job-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 100
query		job-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job history event object. All job history event objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-history-info[] optional	The list of attributes of job history event objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job history event objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-pause

[top]

Pause a job. A job must be of a type that has job-type-is-pausible set to true before it may be paused. Once notified of a pause request, a job should stop performing work until it is subsequently resumed.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-pause-iter

[top]

Pause a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-pause-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
	[0..2^32-	integer	The number of job objects that matched the query, but were not

num-failed	**1]**	optional	operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job objects that matched the query and were successfully processed.
success-list		job-pause-iter-info[] optional	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-completed-get

[top]

Get a single completed, private job entry. This is just a performance optimization for job-private-get.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Output Name	Range	Type	Description
attributes		job-info	The attributes of the private job completion entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-completed-get-iter

[top]

Get multiple completed, private job records. This is just a performance optimization for job-private-get-iter.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the private job completion

		optional	entry object. All private job completion entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of private job completion entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more private job completion entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-private-get

[top]

Get a single private job entry.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Output Name	Range	Type	Description
attributes		job-info	The attributes of the private job.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-get-iter

[top]

Get multiple private job records.

Input Name	Range	Type	Description
desired-attributes		job-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

			will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		job-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the private job object. All private job objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-info[] optional	The list of attributes of private job objects.
next-tag		string optional	Tag for the next call. Not present when there are no more private job objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-private-pause

[top]

Pause a private job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-pause-iter

[top]

Pause a collection of private jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-pause-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-pause-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-resume

[top]

Resume a job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID

job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-resume-iter

[top]

Resume a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-resume-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of private job objects that matched the query, but were not operated on due some error.

num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-resume-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-soft-pause

[top]

Soft pause a private job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-soft-pause-iter

[top]

Soft pause a collection of private jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
			If set to true, the API will return the list of private job objects (just

return-failure-list		boolean optional	keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-soft-pause-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-soft-pause-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-private-stop

[top]

Stop a job.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	Job ID
job-node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-private-stop-iter

[top]

Stop a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of private job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-private-stop-iter-info[] optional	Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching private job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of private job objects that matched the query and were successfully processed.
success-list		job-private-stop-iter-info[] optional	The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-queue-config-get

[top]

Get the job queue configuration

Input Name	Range	Type	Description
desired-attributes		job-queue-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		job-queue-config-info	The attributes of the job-queue-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-queue-config-modify

[top]

Modify the job queue configuration

Input Name	Range	Type	Description
job-queue-config-jobs-per-type-threshold	**[0..100]**	integer optional	Threshold for accepted jobs per type.
job-queue-config-queue-size-limit	**[0..2^32-1]**	integer optional	Job queue size limit.
job-queue-config-warning-threshold	**[0..100]**	integer optional	Warning threshold for total number of jobs.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-resume

[top]

Resume a job from the paused state.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-resume-iter

[top]

Resume a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-resume-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of job objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of job objects that matched the query and were successfully processed.
success-list		job-resume-iter-	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

		info[] optional	

Errno	Description
EINTERNALERROR	

job-schedule-cron-create

[top]

Create a new cron job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-cron-day		cron-day-of-month[] optional	The day(s) of the month when the job should be run.
job-schedule-cron-day-of-week		cron-day-of-week[] optional	The day(s) in the week when the job should be run.
job-schedule-cron-hour		cron-hour[] optional	The hour(s) of the day when the job should be run.
job-schedule-cron-minute		cron-minute[]	The minute(s) of each hour when the job should be run.
job-schedule-cron-month		cron-month[] optional	The month(s) when the job should be run.
job-schedule-name		string	The name of the job schedule.
return-record		boolean optional	If set to true, returns the job-schedule-cron on successful creation. Default: false

Output Name	Range	Type	Description
result		job-schedule-cron-info optional	The job-schedule-cron created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-cron-destroy

[top]

Delete a single cron job schedule entry. The entry must not be in use.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Errno	Description
E_SCHEDULE_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-cron-destroy-iter

[top]

Delete multiple cron job schedule entries. The entries must not be in use.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job-schedule-cron objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous job-schedule-cron fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous matching job-schedule-cron fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job-schedule-cron objects to delete in this call. Default: 100
query		job-schedule-cron-info	If deleting a specific job-schedule-cron, this input element must specify all keys. If deleting multiple job-schedule-cron objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job-schedule-cron objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-cron objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job-schedule-cron objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-cron objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
		job-	

failure-list		schedule-cron-destroy-iter-info[] optional	Information about job-schedule-cron objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job-schedule-cron objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of job-schedule-cron objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job-schedule-cron objects that matched the query and were successfully deleted.
success-list		job-schedule-cron-destroy-iter-info[] optional	The job-schedule-cron objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

job-schedule-cron-get

[top]

Get a single cron job schedule entry.

Input Name	Range	Type	Description
desired-attributes		job-schedule-cron-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Output Name	Range	Type	Description
attributes		job-schedule-cron-info	The attributes of the job-schedule-cron.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-schedule-cron-get-iter

[top]

Get multiple cron job schedule entries.

Input Name	Range	Type	Description
desired-attributes		job-schedule-cron-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 100
query		job-schedule-cron-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-cron object. All job-schedule-cron objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-schedule-cron-info[] optional	The list of attributes of job-schedule-cron objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-schedule-cron objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-schedule-cron-modify

[top]

Modify an existing cron job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-cron-day		cron-day-of-month[] optional	The day(s) of the month when the job should be run.
job-schedule-cron-day-of-week		cron-day-of-week[] optional	The day(s) in the week when the job should be run.
job-schedule-cron-hour		cron-hour[] optional	The hour(s) of the day when the job should be run.
job-schedule-cron-minute		cron-minute[] optional	The minute(s) of each hour when the job should be run.

job-schedule-cron-month		cron-month[] optional	The month(s) when the job should be run.
job-schedule-name		string	The name of the job schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-get

[top]

Get a single job schedule entry.

Input Name	Range	Type	Description
desired-attributes		job-schedule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Output Name	Range	Type	Description
attributes		job-schedule-info	The attributes of the job-schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-schedule-get-iter

[top]

Get multiple job schedule entries.

Input Name	Range	Type	Description
desired-attributes		job-schedule-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-**	integer	The maximum number of records to return in this call. Default: 20

	1]	optional	
query		job-schedule-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule object. All job-schedule objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-schedule-info[] optional	The list of attributes of job-schedule objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-schedule objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-schedule-interval-create

[top]

Create a new interval job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-interval-days	**[0..2^32-1]**	integer optional	The number of days between jobs.
job-schedule-interval-hours	**[0..2^32-1]**	integer optional	The number of hours between jobs.
job-schedule-interval-minutes	**[0..2^32-1]**	integer optional	The number of minutes between jobs.
job-schedule-interval-seconds	**[0..2^32-1]**	integer optional	The number of seconds between jobs.
job-schedule-name		string	The name of the job schedule.
return-record		boolean optional	If set to true, returns the job-schedule-interval on successful creation. Default: false

Output Name	Range	Type	Description
result		job-schedule-interval-info optional	The job-schedule-interval created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-interval-destroy

[top]

Delete a single interval job schedule entry. The entry must not be in use.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Errno	Description
E_SCHEDULE_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-schedule-interval-destroy-iter

[top]

Delete multiple interval job schedule entries. The entries must not be in use.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job-schedule-interval objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous job-schedule-interval fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous matching job-schedule-interval fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of job-schedule-interval objects to delete in this call. Default: 100
query		job-schedule-interval-info	If deleting a specific job-schedule-interval, this input element must specify all keys. If deleting multiple job-schedule-interval objects based on query, this input element must specify a query.

return-failure-list		boolean optional	If set to true, the API will return the list of job-schedule-interval objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-interval objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job-schedule-interval objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-interval objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-schedule-interval-destroy-iter-info[] optional	Information about job-schedule-interval objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job-schedule-interval objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of job-schedule-interval objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job-schedule-interval objects that matched the query and were successfully deleted.
success-list		job-schedule-interval-destroy-iter-info[] optional	The job-schedule-interval objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

job-schedule-interval-get

[top]

Get a single interval job schedule entry.

Input Name	Range	Type	Description
desired-attributes		job-schedule-interval-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-name		string	The name of the job schedule.

Output Name	Range	Type	Description
attributes		job-schedule-interval-info	The attributes of the job-schedule-interval.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-schedule-interval-get-iter

[top]

Get multiple interval job schedule entries.

Input Name	Range	Type	Description
desired-attributes		job-schedule-interval-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 100
query		job-schedule-interval-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-interval object. All job-schedule-interval objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		job-schedule-interval-info[] optional	The list of attributes of job-schedule-interval objects.
next-tag		string optional	Tag for the next call. Not present when there are no more job-schedule-interval objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

job-schedule-interval-modify

[top]

Modify an existing interval job schedule entry.

Input Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified.
job-schedule-interval-days	**[0..2^32-1]**	integer optional	The number of days between jobs.
job-schedule-interval-hours	**[0..2^32-1]**	integer optional	The number of hours between jobs.
job-schedule-interval-minutes	**[0..2^32-1]**	integer optional	The number of minutes between jobs.
job-schedule-interval-seconds	**[0..2^32-1]**	integer optional	The number of seconds between jobs.
job-schedule-name		string	The name of the job schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

job-soft-pause

[top]

Soft pause a job. Indicates to the job that a soft pause has been initiated. It is up to the job to do what it needs to do for a soft pause. As a result of this command the job may request to be moved into the runnnable queue to perform further processing of the soft pause.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-soft-pause-iter

[top]

Soft pause a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-soft-pause-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job objects that matched the query and were successfully processed.
success-list		job-soft-pause-iter-info[] optional	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

job-stop

[top]

Stop a job. A job must be of a type that has job-type-is-quittable set to true before it may be stopped. job-stop attempts to stop a job that's currently running. If the job allows itself to stop it completes its current run. If the job has a recurring schedule it will transition to the Queued state; otherwise it will transition into either the Success or Failure state.

Input Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer	The job id.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

job-stop-iter

[top]

Stop a collection of jobs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of job objects to be operated in this call. Default: 20
query		job-info	If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		job-stop-iter-info[] optional	Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching job objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of job objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of job objects that matched the query and were successfully processed.

success-list		job-stop-iter-info[] optional	The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **job-history-info**

[top]

Job history log event When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-completion		string optional	Human-readable job completion message. Attributes: non-creatable, non-modifiable
job-description		string optional	Job description. Attributes: non-creatable, non-modifiable
job-end-time	**[0..2^31-1]**	integer optional	When the job last completed. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
job-event-time	**[0..2^31-1]**	integer optional	The time when this event was logged. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
job-event-type		job-event-type optional	The type of this history event. Attributes: non-creatable, non-modifiable Possible values: • "idle" - The job has become idle, • "running" - The job has started running, • "succeeded" - The job has completed successfully, • "failed" - The job has completed with a failure, • "paused" - The job has been paused, • "stopped" - The job has been stopped, • "deleted" - The job has been deleted, • "error" - Job Manager experienced an error while processing the job
job-id	**[0..2^64-1]**	integer optional	The identifier associated with this job by the Job Manager. This identifier is unique within a cluster. The 'job-history-get-iter' API can return multiple records for a given job identifier because it logs the state transitions that the job has been through. Records in the 'job-history-get-iter' API are returned in reverse chronological order. Attributes: non-creatable, non-modifiable
job-	**[0..2^64-**	integer	The error code, if any, that the Job Manager associated with this

manager-error-code	**1]**	optional	event. If set, 'job-error-text' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable
job-manager-error-text		string optional	The human-readable text for the error code, if any, that the Job Manager associated with this event. Attributes: non-creatable, non-modifiable
job-name		string optional	Name of the job. Attributes: non-creatable, non-modifiable
job-node		node-name optional	The name of the node where the job ran, or the node that changed the job's state. Attributes: key, non-creatable, non-modifiable
job-progress		string optional	Human-readable job progress message. Attributes: non-creatable, non-modifiable
job-start-time	**[0..2^31-1]**	integer optional	When the job last started. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
job-status-code	**[0..2^64-1]**	integer optional	Status code. Value other than 0 indicates an error in the job execution, in which case 'job-completion' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable
job-username		string optional	The name of the user that created the job. Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	Job's universally unique identifier (UUID). Attributes: non-creatable, non-modifiable
job-vserver		job-history-vserver-name optional	Vserver from which the job was created. Attributes: key, non-creatable, non-modifiable
log-id	**[0..2^64-1]**	integer optional	The internal identifier of this job history event. Attributes: key, non-creatable, non-modifiable

Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-restarted		boolean optional	Restarted? Attributes: non-creatable, non-modifiable
job-category		string optional	Job Category Attributes: non-creatable, non-modifiable
job-completion		string optional	Completion String Attributes: non-creatable, non-modifiable
job-description		string optional	Description Attributes: non-creatable, non-modifiable
job-dropdead-time	**[0..2^31-1]**	integer optional	Drop-dead Time Attributes: non-creatable, non-modifiable

job-end-time	**[0..2^31-1]**	integer optional	End Time Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Job ID Attributes: key, non-creatable, non-modifiable
job-name		string optional	Name Attributes: non-creatable, non-modifiable
job-node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
job-priority		job-priority optional	Priority Attributes: non-creatable, non-modifiable Possible values: • "low" , • "medium" , • "high" , • "exclusive"
job-progress		string optional	Execution Progress Attributes: non-creatable, non-modifiable
job-queue-time	**[0..2^31-1]**	integer optional	Queue Time Attributes: non-creatable, non-modifiable
job-schedule		string optional	Schedule Attributes: non-creatable, non-modifiable
job-start-time	**[0..2^31-1]**	integer optional	Start Time Attributes: non-creatable, non-modifiable
job-state		job-state optional	State Attributes: non-creatable, non-modifiable Possible values: • "initial" - Initializing, • "queued" - Queued, • "running" - Running, • "waiting" - Waiting For Another Job, • "pausing" - Entering Paused State, • "paused" - Paused, • "quitting" - Entering Quit State, • "success" - Succeeded, • "failure" - Failed, • "reschedule" - Forcing Reschedule, • "error" - Internal Error, • "quit" - Quit, • "dead" - Died, • "unknown" - Unknown, • "restart" - Forcing Restart, • "dormant" - Waiting For External Event
job-status-code	**[0..2^64-1]**	integer optional	Status Code Attributes: non-creatable, non-modifiable
job-type		string optional	Job Type Attributes: non-creatable, non-modifiable
job-username		string optional	User Name Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	UUID Attributes: non-creatable, non-modifiable
job-vserver		vserver-name optional	Owning Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **job-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **job-private-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-private-resume-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-private-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.

error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-private-stop-iter-info** [top]

Information about the operation that was attempted/performed against private job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-private-key		job-info	The keys for the private job object to which the operation applies.

Element definition: **job-queue-config-info** [top]

Contains configuration detail information about the job queue. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-queue-config-jobs-per-type-threshold	**[0..100]**	integer optional	Threshold for accepted jobs per type. Attributes: non-creatable, modifiable
job-queue-config-queue-size-limit	**[0..2^32-1]**	integer optional	Job queue size limit. Attributes: non-creatable, modifiable
job-queue-config-warning-threshold	**[0..100]**	integer optional	Warning threshold for total number of jobs. Attributes: non-creatable, modifiable

Element definition: **job-resume-iter-info** [top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
		string	

error-message		optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **job-schedule-cron-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-cron object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-schedule-cron-key		job-schedule-cron-info	The keys for the job-schedule-cron object to which the deletion applies.

Element definition: **job-schedule-cron-info**

[top]

Contains detail information about cron job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable
job-schedule-cron-day		cron-day-of-month[] optional	The day(s) of the month when the job should be run. Attributes: optional-for-create, modifiable
job-schedule-cron-day-of-week		cron-day-of-week[] optional	The day(s) in the week when the job should be run. Attributes: optional-for-create, modifiable
job-schedule-cron-hour		cron-hour[] optional	The hour(s) of the day when the job should be run. Attributes: optional-for-create, modifiable
job-schedule-cron-minute		cron-minute[] optional	The minute(s) of each hour when the job should be run. Attributes: required-for-create, modifiable
job-schedule-		cron-month[]	The month(s) when the job should be run. Attributes: optional-for-create, modifiable

cron-month		optional	
job-schedule-description		string optional	The description of the job schedule. Attributes: non-creatable, non-modifiable
job-schedule-name		string optional	The name of the job schedule. Attributes: key, required-for-create, non-modifiable

Element definition: **job-schedule-info**

[top]

Contains overview information about a single job schedule. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable
job-schedule-description		string optional	The description of the job schedule. Attributes: non-creatable, non-modifiable
job-schedule-name		string optional	The name of the job schedule. Attributes: key, required-for-create, non-modifiable
job-schedule-type		schedule-type optional	The type of job schedule. Attributes: non-creatable, non-modifiable Possible values: • "cron" , • "interval" , • "builtin" , • "unknown"

Element definition: **job-schedule-interval-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-interval object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.

job-schedule-interval-key		job-schedule-interval-info	The keys for the job-schedule-interval object to which the deletion applies.

Element definition: **job-schedule-interval-info**

[top]

Contains detail information about interval job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
job-schedule-cluster		cluster-name optional	The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable
job-schedule-description		string optional	The description of the job schedule. Attributes: non-creatable, non-modifiable
job-schedule-interval-days	**[0..2^32-1]**	integer optional	The number of days between jobs. Attributes: optional-for-create, modifiable
job-schedule-interval-hours	**[0..2^32-1]**	integer optional	The number of hours between jobs. Attributes: optional-for-create, modifiable
job-schedule-interval-minutes	**[0..2^32-1]**	integer optional	The number of minutes between jobs. Attributes: optional-for-create, modifiable
job-schedule-interval-seconds	**[0..2^32-1]**	integer optional	The number of seconds between jobs. Attributes: optional-for-create, modifiable
job-schedule-name		string optional	The name of the job schedule. Attributes: key, required-for-create, non-modifiable

Element definition: **job-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.

error-message		string optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **job-stop-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
job-key		job-info	The keys for the job object to which the operation applies.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **cron-day-of-month**

[top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

Element definition: **cron-month** [top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

Element definition: **job-event-type** [top]

Jobs will trigger history events at certain stages of their life cycle. These events are of the types described herein. Possible values:

- "idle" - The job has become idle,
- "running" - The job has started running,
- "succeeded" - The job has completed successfully,
- "failed" - The job has completed with a failure,
- "paused" - The job has been paused,
- "stopped" - The job has been stopped,
- "deleted" - The job has been deleted,
- "error" - Job Manager experienced an error while processing the job

[none]

Element definition: **job-history-vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-restarted		boolean optional	Restarted? Attributes: non-creatable, non-modifiable
job-category		string optional	Job Category Attributes: non-creatable, non-modifiable
job-completion		string optional	Completion String Attributes: non-creatable, non-modifiable
job-description		string optional	Description Attributes: non-creatable, non-modifiable
job-dropdead-time	**[0..2^31-1]**	integer optional	Drop-dead Time Attributes: non-creatable, non-modifiable
job-end-time	**[0..2^31-1]**	integer optional	End Time Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Job ID Attributes: key, non-creatable, non-modifiable
job-name		string optional	Name Attributes: non-creatable, non-modifiable
job-node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
job-priority		job-priority optional	Priority Attributes: non-creatable, non-modifiable Possible values: • "low" , • "medium" , • "high" , • "exclusive"
job-progress		string optional	Execution Progress Attributes: non-creatable, non-modifiable
job-queue-time	**[0..2^31-1]**	integer optional	Queue Time Attributes: non-creatable, non-modifiable
job-schedule		string optional	Schedule Attributes: non-creatable, non-modifiable
job-start-time	**[0..2^31-1]**	integer optional	Start Time Attributes: non-creatable, non-modifiable
			State Attributes: non-creatable, non-modifiable Possible values:

job-state		job-state optional	• "initial" - Initializing, • "queued" - Queued, • "running" - Running, • "waiting" - Waiting For Another Job, • "pausing" - Entering Paused State, • "paused" - Paused, • "quitting" - Entering Quit State, • "success" - Succeeded, • "failure" - Failed, • "reschedule" - Forcing Reschedule, • "error" - Internal Error, • "quit" - Quit, • "dead" - Died, • "unknown" - Unknown, • "restart" - Forcing Restart, • "dormant" - Waiting For External Event
job-status-code	**[0..2^64-1]**	integer optional	Status Code Attributes: non-creatable, non-modifiable
job-type		string optional	Job Type Attributes: non-creatable, non-modifiable
job-username		string optional	User Name Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	UUID Attributes: non-creatable, non-modifiable
job-vserver		vserver-name optional	Owning Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **job-priority**

[top]

Execution priority of a job. There are thread pools for each priority level. Higher priority jobs may run in the pools of lower priorities. So High-priority jobs may run in the High, Medium or Low thread pools, Medium-priority jobs may run in the Medium or Low thread pools and Low-priority jobs may only run in the Low thread pool. The exception to this is Exclusive jobs: Exclusive-priority jobs will only run in the Exclusive thread pool and only Exclusive-priority jobs will be run in the Exclusive thread pool. Possible values:

- "low" ,
- "medium" ,
- "high" ,
- "exclusive"

[none]

Element definition: **job-state**

[top]

Jobs execute as self-contained state machines. They follow a series of careful steps from creation to destruction. These steps are dictated by the states that they find themselves in as well as the allowable list of states they may transition into. The state can be an indicator of whether a job is executing and if not, why that is the case. Possible values:

- "initial" - Initializing,
- "queued" - Queued,
- "running" - Running,
- "waiting" - Waiting For Another Job,
- "pausing" - Entering Paused State,
- "paused" - Paused,
- "quitting" - Entering Quit State,
- "success" - Succeeded,
- "failure" - Failed,
- "reschedule" - Forcing Reschedule,
- "error" - Internal Error,
- "quit" - Quit,
- "dead" - Died,
- "unknown" - Unknown,
- "restart" - Forcing Restart,
- "dormant" - Waiting For External Event

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **schedule-type**

[top]

Jobs may be scheduled according to one of three major styles: 'cron' is for jobs that should be run at a specific time or well-defined calendar date; 'interval' is for jobs that should be run on a regular period; 'builtin' is for jobs that should be run according to internal rules. Of these 'cron' and 'interval' may be customized. Possible values:

- "cron" ,
- "interval" ,
- "builtin" ,
- "unknown"

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **kerberos**

kerberos-config-get
kerberos-config-get-iter
kerberos-config-modify
kerberos-realm-create
kerberos-realm-delete
kerberos-realm-get-iter
kerberos-realm-modify

This set of ZAPIs allows Kerberos realm configuration and management.

kerberos-config-get

[top]

Get Kerberos configuration information for a LIF.

Input Name	Range	Type	Description
desired-attributes		kerberos-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface-name		string	Logical interface.

Output Name	Range	Type	Description
attributes		kerberos-config-info	The attributes of the kerberos-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

kerberos-config-get-iter

[top]

Get Kerberos configuration information for a group of LIFs.

Input Name	Range	Type	Description
desired-attributes		kerberos-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 50
query		kerberos-config-	A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-config

		info optional	object. All kerberos-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		kerberos-config-info[] optional	The list of attributes of kerberos-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more kerberos-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

kerberos-config-modify

[top]

Modify Kerberos configuration information for a LIF

Input Name	Range	Type	Description
admin-password		string optional	Administrator password.
admin-user-name		string optional	Administrator username.
force		boolean optional	Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually.
interface-name		string	Logical interface.
is-kerberos-enabled		boolean optional	If 'true', then kerberos security is enabled.
keytab-uri		string optional	Keytab to load the uri from.
machine-account		string optional	Machine Account Name.
organizational-unit		string optional	Organizational Unit.
service-principal-name		string optional	Kerberos service principal name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_CANT_SHARE_AD_KERBEROS_ACCOUNT	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

kerberos-realm-create

[top]

Create a new Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

Input Name	Range	Type	Description
ad-server-ip		ip-address optional	IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'.
ad-server-name		string optional	Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'
admin-server-ip		ip-address optional	IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'.
admin-server-port		integer optional	The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749.
clock-skew		integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes.
comment		string optional	Comment
config-name		string optional	Kerberos configuration name.
kdc-ip		ip-address	IP address of the Key Distribution Centre (KDC) server for this Kerberos realm.
kdc-port		integer optional	TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88.
kdc-vendor		kdc-vendor	The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'.
password-server-ip		ip-address optional	IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used.
password-server-port		integer optional	The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464.
realm		string	Kerberos realm name.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

kerberos-realm-delete

[top]

Delete the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

Input Name	Range	Type	Description
config-name		string optional	Kerberos configuration name.
realm		string optional	Kerberos realm name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

kerberos-realm-get-iter

[top]

Retrieve the list of Kerberos realm configurations.

Input Name	Range	Type	Description
desired-attributes		kerberos-realm optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		kerberos-realm optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-realm object. All kerberos-realm objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		kerberos-realm[] optional	The list of attributes of kerberos-realm objects.
next-tag		string optional	Tag for the next call. Not present when there are no more kerberos-realm objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

kerberos-realm-modify

[top]

Modify the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

Input Name	Range	Type	Description
ad-server-ip		ip-address optional	IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'.
ad-server-name		string optional	Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'
admin-server-ip		ip-address optional	IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'.
admin-server-port		integer optional	The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749.
clock-skew		integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes.
comment		string optional	Comment
config-name		string optional	Kerberos configuration name.
kdc-ip		ip-address optional	IP address of the Key Distribution Centre (KDC) server for this Kerberos realm.
kdc-port		integer optional	TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88.
kdc-vendor		kdc-vendor optional	The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'.
password-server-ip		ip-address optional	IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used.
password-server-port		integer optional	The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464.
realm		string optional	Kerberos realm name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

Element definition: **kerberos-config-info**

[top]

Kerberos configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-password		string optional	Administrator password for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable
admin-user-name		string optional	Administrator username for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable
force		boolean optional	Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually. Attributes: non-creatable, modifiable
interface-name		string optional	Logical interface. Attributes: key, non-creatable, non-modifiable

ip-address		string optional	Logical interface IP address. Attributes: non-creatable, non-modifiable
is-kerberos-enabled		boolean optional	This is a required input. If 'true', Kerberos security is enabled by creating an account in the Key Distribution Center using the Service Principal Name. If another logical interface uses the same Service Principal Name, the account is shared. If 'false', Kerberos security is disabled and the associated account is deleted when it is not used by any logical interface. Attributes: non-creatable, modifiable
keytab-uri		string optional	Load Keytab from URI. This field should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable
machine-account		string optional	Machine Account Name. Attributes: non-creatable, modifiable
organizational-unit		string optional	Organization Unit. This option is available for a Microsoft AD KDC only. Attributes: non-creatable, modifiable
permitted-enc-types		string[] optional	Permitted encryption types in the Vserver. Attributes: non-creatable, non-modifiable
service-principal-name		string optional	Kerberos service principal name. This is a required input for enabling Kerberos. This input should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable
vserver		string optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **kerberos-realm**

[top]

Kerberos realm configuration specifies the locations of Key Distribution Center (KDC) servers and administration daemons for the Kerberos realms of interest. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ad-server-ip		ip-address optional	IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable
ad-server-name		string optional	Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' Attributes: optional-for-create, modifiable
admin-server-ip		ip-address optional	IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable
admin-server-	**[1..65535]**	integer	The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this

port		optional	parmater is 749. Attributes: optional-for-create, modifiable
clock-skew	**[0..2^32-1]**	integer optional	The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. Attributes: optional-for-create, modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
config-name		string optional	Kerberos configuration name. Attributes: key, non-creatable, non-modifiable
kdc-ip		ip-address optional	IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. Attributes: required-for-create, modifiable
kdc-port	**[1..65535]**	integer optional	TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. Attributes: optional-for-create, modifiable
kdc-vendor		kdc-vendor optional	The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. Attributes: required-for-create, modifiable Possible values: • "microsoft" , • "other"
password-server-ip		ip-address optional	IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. Attributes: optional-for-create, modifiable
password-server-port	**[1..65535]**	integer optional	The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. Attributes: optional-for-create, modifiable
permitted-enc-types		string[] optional	Permitted encryption types on the Vserver. Attributes: non-creatable, non-modifiable
realm		string optional	Kerberos realm name. Attributes: key, required-for-create, non-modifiable
vserver-name		vserver-name optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **ldap**

ldap-check-get-iter
ldap-client-create
ldap-client-delete
ldap-client-get-iter
ldap-client-modify
ldap-client-schema-copy
ldap-client-schema-delete
ldap-client-schema-get-iter
ldap-client-schema-modify
ldap-config-create
ldap-config-delete
ldap-config-get-iter
ldap-config-modify

This set of ZAPIs manages Lightweight Directory Access Protocol (LDAP) configuration.

ldap-check-get-iter

[top]

Display the status of an LDAP configuration

Input Name	Range	Type	Description
desired-attributes		ldap-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ldap-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-check object. All ldap-client-check objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-status[] optional	The list of attributes of ldap-client-check objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-client-check objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
E_LDAP_VSERVER_OPSTATE_STOPPED	
E_LDAP_CONFIG_DISABLED	
E_LDAP_VSERVER_CONFIG_INVALID	

ldap-client-create

[top]

Create a new Lightweight Directory Access Protocol (LDAP) client configuration for the cluster.

Input Name	Range	Type	Description
ad-domain		string optional	The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers.
base-dn		ldap-dn optional	Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree.
base-scope		ldap-search-scope optional	This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
bind-as-cifs-server		boolean optional	If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise.
bind-dn		ldap-dn optional	The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com
bind-password		string optional	The password to be used with the bind-dn.
group-dn		ldap-dn optional	The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn.
group-membership-filter		string optional	This indicates the custom filter to be used while looking up group membership from an LDAP server.
group-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing group lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates

is-netgroup-byhost-enabled		boolean optional	This indicates whether netgroup.byhost map should be queried for lookups.
ldap-client-config		string	The name of the LDAP client configuration.
ldap-servers		string[] optional	List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter.
ldaps-enabled		boolean optional	Indicates whether LDAPS is enabled or not.
min-bind-level		ldap-auth-method optional	The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values: • "anonymous" - Anonymous bind, • "simple" - Simple bind, • "sasl" - Simple Authentication and Security Layer (SASL) bind
netgroup-byhost-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn.
netgroup-byhost-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
netgroup-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn.
netgroup-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
obs-password		hex-string optional	Encrypted Password
preferred-ad-servers		ip-address[] optional	Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers
query-timeout	**[0..10]**	integer optional	Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds.
referral-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver.
restrict-		boolean	This indicates whether to restrict server discovery to site scope.

discovery-to-site		optional	The option is NOT applicable for configurations using ldap-servers parameter.
return-record		boolean optional	If set to true, returns the ldap-client on successful creation. Default: false
schema		string	LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API.
servers		ip-address[] optional	(DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers.
session-security		ldap-security optional	This indicates the level of security for LDAP communications. By default this option is none. Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
tcp-port	**[1..65535]**	integer optional	The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389.
try-channel-binding		boolean optional	This indicates whether channel binding will be tried in case of TLS/LDAPS.
use-start-tls		boolean optional	This indicates if start_tls will be used over LDAP connections.
user-dn		ldap-dn optional	The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn.
user-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing user lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates

Output Name	Range	Type	Description
result		ldap-client optional	The ldap-client created (keys or the entire object if requested)

Errno	Description
EDUPLICATEENTRY	
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

ldap-client-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) client configuration from the cluster.

Input Name	Range	Type	Description
ldap-client-config		string	The name of the LDAP client configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-client-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client configurations for the cluster.

Input Name	Range	Type	Description
desired-attributes		ldap-client optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ldap-client optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client object. All ldap-client objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-client[] optional	The list of attributes of ldap-client objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-client objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

ldap-client-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) client configuration.

Input Name	Range	Type	Description
ad-domain		string optional	The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers.
base-dn		ldap-dn optional	Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree.
			This indicates the scope for LDAP search. If omitted, this

base-scope		ldap-search-scope optional	parameter defaults to 'subtree'. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
bind-as-cifs-server		boolean optional	If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise.
bind-dn		ldap-dn optional	The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com
bind-password		string optional	The password to be used with the bind-dn.
group-dn		ldap-dn optional	The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn.
group-membership-filter		string optional	This indicates the custom filter to be used while looking up group membership from an LDAP server.
group-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing group lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
is-netgroup-byhost-enabled		boolean optional	This indicates whether netgroup.byhost map should be queried for lookups.
ldap-client-config		string	The name of the LDAP client configuration.
ldap-servers		string[] optional	List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter.
ldaps-enabled		boolean optional	Indicates whether LDAPS is enabled or not.
min-bind-level		ldap-auth-method optional	The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values: • "anonymous" - Anonymous bind, • "simple" - Simple bind, • "sasl" - Simple Authentication and Security Layer (SASL) bind
netgroup-byhost-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the

			base-dn.
netgroup-byhost-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
netgroup-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn.
netgroup-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
obs-password		hex-string optional	Encrypted Password
preferred-ad-servers		ip-address[] optional	Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers
query-timeout	**[0..10]**	integer optional	Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds.
referral-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver.
restrict-discovery-to-site		boolean optional	This indicates whether to restrict server discovery to site scope. The option is NOT applicable for configurations using ldap-servers parameter.
schema		string optional	LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API.
servers		ip-address[] optional	(DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers.
session-security		ldap-security optional	This indicates the level of security for LDAP communications. By default this option is none. Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped.
tcp-port	**[1..65535]**	integer optional	The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389.
try-channel-binding		boolean optional	This indicates whether channel binding will be tried in case of TLS/LDAPS.
use-start-tls		boolean optional	This indicates if start_tls will be used over LDAP connections.

user-dn		ldap-dn optional	The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn.
user-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing user lookups. Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates

Errno	Description
E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE	

ldap-client-schema-copy

[top]

Copy an existing LDAP schema. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, this API can be used to create an editable copy of an existing read-only schema. After copying the schema, the copy can be modified using the ldap-client-schema-modify API.

Input Name	Range	Type	Description
new-schema-name		string	New Schema Template Name
schema		string	A name for the schema.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-client-schema-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) schema configuration. Only the schemas that are defined using the ldap-client-schema-copy API can be deleted using this API.

Input Name	Range	Type	Description
schema		string	A name for the schema.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-client-schema-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client schema configurations that are defined for the cluster.

Input Name	Range	Type	Description
desired-attributes		ldap-client-schema optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ldap-client-schema optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-schema object. All ldap-client-schema objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-client-schema[] optional	The list of attributes of ldap-client-schema objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-client-schema objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ldap-client-schema-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) schema configuration. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, the ldap-client-schema-copy API can be used to create a editable copy of an existing read-only schema. After copying the schema, the copy can be modified using this API to support the target schema.

Input Name	Range	Type	Description
cn-group-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups.
cn-netgroup-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups.
comment		string optional	A comment that can be associated with the schema.
enable-rfc2307bis		boolean optional	This indicates if the RFC 2307bis is enabled for client schema.
gecos-attribute		string optional	Name that represents the RFC 2307 gecos attribute.
gid-number-attribute		string optional	Name that represents the RFC 2307 gidNumber attribute.

group-of-unique-names-object-class		string optional	Name that represents the RFC 2307bis groupOfUniqueNames object class.
home-directory-attribute		string optional	Name that represents the RFC 2307 homeDirectory attribute.
login-shell-attribute		string optional	Name that represents the RFC 2307 loginShell attribute.
member-nis-netgroup-attribute		string optional	Name that represents the RFC 2307 memberNisNetgroup attribute.
member-uid-attribute		string optional	Name that represents the RFC 2307 memberUid attribute.
nis-mapentry-attribute		string optional	Name that represents the RFC 2307 nisMapEntry Attribute.
nis-mapname-attribute		string optional	Name that represents the RFC 2307 nisMapName Attribute.
nis-netgroup-object-class		string optional	Name that represents the RFC 2307 nisNetgroup object class.
nis-netgroup-triple-attribute		string optional	Name that represents the RFC 2307 nisNetgroupTriple attribute.
nis-object-class		string optional	Name that represents the RFC 2307 nisObject Object Class.
posix-account-object-class		string optional	Name that represents the RFC 2307 posixAccount object class.
posix-group-object-class		string optional	Name that represents the RFC 2307 posixGroup object class.
schema		string	A name for the schema.
uid-attribute		string optional	Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid.
uid-number-attribute		string optional	Name that represents the RFC 2307 uidNumber attribute.
unique-member-attribute		string optional	Name that represents the RFC 2307bis uniqueMember attribute.
user-password-attribute		string optional	Name that represents the RFC 2256 userPassword attribute used by RFC 2307.
windows-account-attribute		string optional	Attribute name to be used to get the windows account information for a unix user account.
windows-to-unix-attribute		string optional	Attribute name to be used to get the unix account information for a windows user account.
windows-to-unix-no-domain-prefix		boolean optional	This indicates if the name for windows to unix name mapping should have no domain prefix.
windows-to-unix-object-class		string optional	Name that represents the windowsToUnix object class.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ldap-config-create

[top]

Create a new association between a Lightweight Directory Access Protocol (LDAP) client configuration and a Vserver. A Vserver can have only one client configuration associated with it.

Input Name	Range	Type	Description
client-config		string	The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster.
client-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver.
return-record		boolean optional	If set to true, returns the ldap-config on successful creation. Default: false
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped.

Output Name	Range	Type	Description
result		ldap-config optional	The ldap-config created (keys or the entire object if requested)

Errno	Description
EDUPLICATEENTRY	
E_LDAP_VSERVER_CONFIG_INVALID	
E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

ldap-config-delete

[top]

Delete a Vserver's association with a Lightweight Directory Access Protocol (LDAP) configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

ldap-config-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) configurations in the cluster.

Input Name	Range	Type	Description
desired-attributes		ldap-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
			A query that specifies which objects to return. A query could be

query		ldap-config optional	specified on any number of attributes in the ldap-config object. All ldap-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ldap-config[] optional	The list of attributes of ldap-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ldap-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ldap-config-modify

[top]

Modify the Lightweight Directory Access Protocol (LDAP) configuration for a Vserver.

Input Name	Range	Type	Description
client-config		string optional	The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster.
client-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver.
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped.

Errno	Description
E_LDAP_VSERVER_CONFIG_INVALID	
E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

Element definition: **ldap-client**

[top]

LDAP Client Information. Each entry specifies an LDAP client configuration that can be associated with a Vserver using the ldap-config-create API. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ad-domain		string optional	The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable
base-dn		ldap-dn optional	Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. Attributes: optional-for-create, modifiable
base-scope		ldap-search-scope optional	This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
bind-as-cifs-server		boolean optional	If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to

			'false' otherwise. Attributes: optional-for-create, modifiable
bind-dn		ldap-dn optional	The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com Attributes: optional-for-create, modifiable
bind-password		string optional	The password to be used with the bind-dn. Attributes: optional-for-create, modifiable
group-dn		ldap-dn optional	The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. Attributes: optional-for-create, modifiable
group-membership-filter		string optional	This indicates the custom filter to be used while looking up group membership from an LDAP server. Attributes: optional-for-create, modifiable
group-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing group lookups. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
is-netgroup-byhost-enabled		boolean optional	This indicates whether netgroup.byhost map should be queried for lookups. Attributes: optional-for-create, modifiable
is-owner		boolean optional	This indicates if the vserver owns the client configuration. Attributes: non-creatable, non-modifiable
ldap-client-config		string optional	The name of the LDAP client configuration. Attributes: key, required-for-create, non-modifiable
ldap-servers		string[] optional	List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. Attributes: optional-for-create, modifiable
ldaps-enabled		boolean optional	Indicates whether LDAPS is enabled or not. Attributes: optional-for-create, modifiable
min-bind-level		ldap-auth-method optional	The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Attributes: optional-for-create, modifiable Possible values: • "anonymous" - Anonymous bind, • "simple" - Simple bind, • "sasl" - Simple Authentication and Security Layer (SASL) bind
netgroup-byhost-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. Attributes: optional-for-create, modifiable
			This indicates the scope for LDAP search when doing netgroup byhost lookups. Attributes: optional-for-create, modifiable Possible values:

netgroup-byhost-scope		ldap-search-scope optional	• "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
netgroup-dn		ldap-dn optional	The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. Attributes: optional-for-create, modifiable
netgroup-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing netgroup lookups. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
obs-password		hex-string optional	Encrypted Password Attributes: optional-for-create, modifiable
preferred-ad-servers		ip-address[] optional	Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers Attributes: optional-for-create, modifiable
query-timeout	**[0..10]**	integer optional	Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. Attributes: optional-for-create, modifiable
referral-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. Attributes: optional-for-create, modifiable
restrict-discovery-to-site		boolean optional	This indicates whether to restrict server discovery to site scope. The option is NOT applicable for configurations using ldap-servers parameter. Attributes: optional-for-create, modifiable
schema		string optional	LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. Attributes: required-for-create, modifiable
servers		ip-address[] optional	(DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable
session-security		ldap-security optional	This indicates the level of security for LDAP communications. By default this option is none. Attributes: optional-for-create, modifiable Possible values: • "none" - No Signing or Sealing., • "sign" - Sign LDAP traffic., • "seal" - Seal and Sign LDAP traffic
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: non-creatable, modifiable
tcp-port	**[1..65535]**	integer optional	The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. Attributes: optional-for-create, modifiable

try-channel-binding		boolean optional	This indicates whether channel binding will be tried in case of TLS/LDAPS. Attributes: optional-for-create, modifiable
use-start-tls		boolean optional	This indicates if start_tls will be used over LDAP connections. Attributes: optional-for-create, modifiable
user-dn		ldap-dn optional	The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. Attributes: optional-for-create, modifiable
user-scope		ldap-search-scope optional	This indicates the scope for LDAP search when doing user lookups. Attributes: optional-for-create, modifiable Possible values: • "base" - Searches only the base directory entry, • "onelevel" - Searches the immediate subordinates of the base directory entry, • "subtree" - Searches the base directory entry and all its subordinates
vserver		vserver-name-data-admin optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **ldap-client-schema**

[top]

An LDAP Client Schema Definition. A schema definition is a way of defining what attribute names are to be used in LDAP queries to get information that the storage system needs for its operation. This will depend on the schema that the LDAP server supports. For example, to query for user account information, the LDAP query should ask for the 'posixAccount' class if the LDAP server is compatible with RFC-2307 and it should ask for 'User' class if the LDAP server is an Active Directory LDAP Server. The default LDAP configuration has two schemas defined namely 'RFC-2307' and 'AD-SFU'. The 'RFC-2307' schema is the default schema that should be used to query servers that support RFC-2307. The 'AD-SFU' schema is the default schema that should be used to query Active Directory LDAP servers. These schemas are read-only and cannot be modified. The default schemas will work with most common LDAP configurations. If it is required to support other schema configurations, 820 :existing schemas can be copied using the 'ldap-client-schema-copy' API and modified using the 'ldap-client-schema-modify' API to work for the new configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cn-group-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups. Attributes: optional-for-create, modifiable
cn-netgroup-attribute		string optional	Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups. Attributes: optional-for-create, modifiable

comment		string optional	A comment that can be associated with the schema. Attributes: optional-for-create, modifiable
enable-rfc2307bis		boolean optional	This indicates if the RFC 2307bis is enabled for client schema. Attributes: optional-for-create, modifiable
gecos-attribute		string optional	Name that represents the RFC 2307 gecos attribute. Attributes: optional-for-create, modifiable
gid-number-attribute		string optional	Name that represents the RFC 2307 gidNumber attribute. Attributes: optional-for-create, modifiable
group-of-unique-names-object-class		string optional	Name that represents the RFC 2307bis groupOfUniqueNames object class. Attributes: optional-for-create, modifiable
home-directory-attribute		string optional	Name that represents the RFC 2307 homeDirectory attribute. Attributes: optional-for-create, modifiable
is-owner		boolean optional	This indicates if the vserver owns the client schema. Attributes: non-creatable, non-modifiable
login-shell-attribute		string optional	Name that represents the RFC 2307 loginShell attribute. Attributes: optional-for-create, modifiable
member-nis-netgroup-attribute		string optional	Name that represents the RFC 2307 memberNisNetgroup attribute. Attributes: optional-for-create, modifiable
member-uid-attribute		string optional	Name that represents the RFC 2307 memberUid attribute. Attributes: optional-for-create, modifiable
nis-mapentry-attribute		string optional	Name that represents the RFC 2307 nisMapEntry Attribute. Attributes: optional-for-create, modifiable
nis-mapname-attribute		string optional	Name that represents the RFC 2307 nisMapName Attribute. Attributes: optional-for-create, modifiable
nis-netgroup-object-class		string optional	Name that represents the RFC 2307 nisNetgroup object class. Attributes: optional-for-create, modifiable
nis-netgroup-triple-attribute		string optional	Name that represents the RFC 2307 nisNetgroupTriple attribute. Attributes: optional-for-create, modifiable
nis-object-class		string optional	Name that represents the RFC 2307 nisObject Object Class. Attributes: optional-for-create, modifiable
posix-account-object-class		string optional	Name that represents the RFC 2307 posixAccount object class. Attributes: optional-for-create, modifiable
posix-group-object-class		string optional	Name that represents the RFC 2307 posixGroup object class. Attributes: optional-for-create, modifiable
schema		string optional	A name for the schema. Attributes: key, required-for-create, non-modifiable
uid-attribute		string optional	Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid. Attributes: optional-for-create, modifiable
uid-number-attribute		string optional	Name that represents the RFC 2307 uidNumber attribute. Attributes: optional-for-create, modifiable
unique-member-attribute		string optional	Name that represents the RFC 2307bis uniqueMember attribute. Attributes: optional-for-create, modifiable
user-password-attribute		string optional	Name that represents the RFC 2256 userPassword attribute used by RFC 2307. Attributes: optional-for-create, modifiable
vserver		vserver-name-data-admin optional	Vserver Attributes: key, non-creatable, non-modifiable
windows-account-attribute		string optional	Attribute name to be used to get the windows account information for a unix user account. Attributes: optional-for-create, modifiable
windows-to-		string	Attribute name to be used to get the unix account information

unix-attribute		optional	for a windows user account. Attributes: optional-for-create, modifiable
windows-to-unix-no-domain-prefix		boolean optional	This indicates if the name for windows to unix name mapping should have no domain prefix. Attributes: optional-for-create, modifiable
windows-to-unix-object-class		string optional	Name that represents the windowsToUnix object class. Attributes: optional-for-create, modifiable

Element definition: **ldap-config**

[top]

Lightweight Directory Access Protocol (LDAP) configuration. Specifies the LDAP client configuration that is associated with this Vserver and whether the configuration is enabled. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-config		string optional	The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. Attributes: required-for-create, modifiable
client-enabled		boolean optional	If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. Attributes: optional-for-create, modifiable
skip-config-validation		boolean optional	If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: optional-for-create, modifiable
vserver		vserver-name-data-admin optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ldap-dn**

[top]

LDAP Distinguished Name

[none]

Element definition: **ldap-search-scope**

[top]

base|onelevel|subtree Possible values:

- "base" - Searches only the base directory entry,
- "onelevel" - Searches the immediate subordinates of the base directory entry,
- "subtree" - Searches the base directory entry and all its subordinates

[none]

Element definition: **ldap-security**

[top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

Element definition: **ldap-status**

[top]

LDAP Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-config		string optional	Specifies the LDAP Client configuration for the Vserver Attributes: non-creatable, non-modifiable
ldap-dn-status-details		string[] optional	Specifies additional information about the status of a LDAP DN config. Attributes: non-creatable, non-modifiable
ldap-status		boolean optional	Specifies the status of a LDAP service. Attributes: non-creatable, non-modifiable
ldap-status-details		string optional	Specifies additional information about the status of a LDAP config. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the LDAP configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

APIs in Category: **license-v2**

license-v2-add
license-v2-apply
license-v2-capacity-create
license-v2-capacity-get-iter
license-v2-cleanup-list-info
license-v2-delete
license-v2-delete-expired
license-v2-delete-unused
license-v2-entitlement-risk-get-iter
license-v2-leases-update
license-v2-license-manager-config-get
license-v2-license-manager-config-modify
license-v2-license-manager-status-get-iter
license-v2-list-info
license-v2-status-get-iter
license-v2-status-list-info
license-v2-subscription-create
license-v2-subscription-get-iter
system-license-aggregate-get-iter

This set of zapis allows management of 7-Mode and Cluster-Mode licenses for Data ONTAP 8.2 and later. License keys are controller based which requires a separate license for each controller. A typical license key has a serial number embedded in it that restrict its use on a specific controller only (with the exception of Site and Demo keys). In a cluster, a single license with an associated serial number can allow a package to be used in the cluster, but to be fully entitled for a package, one must install a license for each controller. Site and Demo licenses are cluster wide and only require a single license for the entire cluster.

license-v2-add

[top]

Add license for a Data ONTAP service.

Input Name	Range	Type	Description
codes		license-code-v2[]	Data ONTAP Cluster-Mode service/feature. 24 or 48 uppercase alpha only characters.

Output Name	Range	Type	Description
license-v2-failure-list		license-v2-result[] optional	A list of failed license operations, one entry per license.
license-v2-success-list		license-v2-added[] optional	A list of successfully added licenses, one entry per license.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-apply

[top]

Add entitlements described in license content

Input Name	Range	Type	Description
content		string	Content of license specification

Errno	Description
EONTAPI_INVALID_LICENSE	
EONTAPI_INVALID_SIGNATURE	
EONTAPI_PLATFORM	
EONTAPI_ZERO_VALUE	
EONTAPI_TABLE_ERROR	

license-v2-capacity-create

[top]

Adds V2 capacity license.

Input Name	Range	Type	Description
license-input		string	Capacity license input.

Errno	Description
EONTAPI_INVALID_LICENSE	
EONTAPI_INVALID_CAPACITY	
EONTAPI_INVALID_SIGNATURE	
EONTAPI_PLATFORM	
EONTAPI_TABLE_ERROR	
EONTAPI_ZERO_CAPACITY	

license-v2-capacity-get-iter

[top]

Get V2 capacity license information. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

Input Name	Range	Type	Description
desired-attributes		license-v2-capacity-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

		optional	
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-capacity-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-capacity-info[] optional	The list of attributes of license objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-cleanup-list-info

[top]

Returns licenses that can be cleaned up. A license can be cleaned up if it's a demo license and its expiration time has passed (expired), or if it is a license for a controller that is no longer part of a cluster (unused). One can use the cleanup apis to remove these licenses together, or alternatively, they can use the standard license-remove api to remove them one at a time.

Output Name	Range	Type	Description
licenses		license-v2-cleanup[] optional	An array, one entry per each license.

Errno	Description
EINTERNALERROR	

license-v2-delete

[top]

Removes license for a Data ONTAP service.

Input Name	Range	Type	Description
			Package Possible values: • "base" - Cluster Base License. This value has been deprecated in

package		licensed-package	Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
serial-number		node-serial-number optional	Serial number of the node associated with the license. If this parameter is not provided, the default serial number used is the cluster serial number.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-delete-expired

[top]

Remove licenses that have expired in the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-delete-unused

[top]

Remove licenses that have no controller affiliation in the cluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-entitlement-risk-get-iter

[top]

Returns license entitlement risk for cluster mode packages.

Input Name	Range	Type	Description
desired-attributes		license-v2-entitlement-risk-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-entitlement-risk-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-entitlement-risk-info[] optional	The list of attributes of license objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-leases-update

[top]

Attempt to reconcile capacity leases

Input Name	Range	Type	Description
force		boolean optional	Force renewal of valid leases.
node		node-name optional	Node(s) to attempt renewal.

Output Name	Range	Type	Description
results		leases-update-results	Results of reconciliation attempt.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

license-v2-license-manager-config-get

[top]

Get license manager configuration

Input Name	Range	Type	Description
desired-attributes		lm-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		lm-config	The attributes of the lm_config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-license-manager-config-modify

[top]

Modify license manager configuration

Input Name	Range	Type	Description
host		string optional	License Manager Host

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

license-v2-license-manager-status-get-iter

[top]

Check accessibility of license manager

Input Name	Range	Type	Description
desired-attributes		lm-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		lm-	A query that specifies which objects to return. A query could be

query		status optional	specified on any number of attributes in the lm_status object. All lm_status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lm-status[] optional	The list of attributes of lm_status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lm_status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-list-info

[top]

Returns infomation for DATA ONTAP licenses.

Output Name	Range	Type	Description
licenses		license-v2-info[]	An array, one entry per license.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

license-v2-status-get-iter

[top]

Get Data ONTAP licenses status information.

Input Name	Range	Type	Description
desired-attributes		license-v2-license-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-license-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the license-v2 object. All license-v2 objects matching this query up to 'max-records' will be

		optional	returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-license-info[] optional	The list of attributes of license-v2 objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license-v2 objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

license-v2-status-list-info

[top]

Returns license status information for cluster mode packages. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

Output Name	Range	Type	Description
license-v2-status		license-v2-status-info[]	An array, one entry per each licensable service.

Errno	Description
EINTERNALERROR	

license-v2-subscription-create

[top]

Add V2 subscription license.

Input Name	Range	Type	Description
license-input		string	Subscription license input.

Errno	Description
EONTAPI_INVALID_LICENSE	
EONTAPI_INVALID_SIGNATURE	
EONTAPI_TABLE_ERROR	

license-v2-subscription-get-iter

[top]

Get V2 subscription license information.

Input Name	Range	Type	Description
desired-attributes		license-v2-subscription-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		license-v2-subscription-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		license-v2-subscription-info[] optional	The list of attributes of license objects.
next-tag		string optional	Tag for the next call. Not present when there are no more license objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-license-aggregate-get-iter

[top]

Get Data ONTAP aggregate license information.

Input Name	Range	Type	Description
desired-attributes		system-license-aggregate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-license-aggregate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-license-aggregate object. All system-license-aggregate objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-license-aggregate-info[] optional	The list of attributes of system-license-aggregate objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-license-aggregate objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **leases-update-results**

[top]

Lease Update Results When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failed-to-update	**[0..2^64-1]**	integer optional	Number of Leases Failed to Update Attributes: non-creatable, non-modifiable
up-to-date	**[0..2^64-1]**	integer optional	Number of Leases Up to Date Attributes: non-creatable, non-modifiable
updated	**[0..2^64-1]**	integer optional	Number of Leases Updated Attributes: non-creatable, non-modifiable

Element definition: **license-code-v2**

[top]

License Code V2

[none]

Element definition: **license-v2-added**

[top]

A license entry that was successfully added to the controller or the cluster.

Name	Range	Type	Description

customer-id		string optional	Customer Identification. This value is only present in site licenses. It is set to none for standard and demo licenses. Attributes: non-creatable, non-modifiable
expiration-time		datetime optional	License expiration time. This value is only present in demo licenses. It is set to zero for permanent licenses such as standard and site licenses. Attributes: non-creatable, non-modifiable
license-key		license-code-v2 optional	License Key. Attributes: non-creatable, non-modifiable
package		licensed-package optional	Package Name. Attributes: non-creatable, non-modifiable
package-description		string optional	Description of the package. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial Number. This value is only present in standard licenses. It is set to none for site and demo licenses. Attributes: non-creatable, non-modifiable
type		license-v2-type optional	License Type. Attributes: non-creatable, non-modifiable

Element definition: **license-v2-capacity-info**

[top]

Information about a capacity license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
current-capacity		integer optional	The node's current disk capacity. Attributes: non-creatable, non-modifiable
expiration-time		datetime optional	License expiration time. Attributes: non-creatable, non-modifiable
max-capacity		integer optional	Maximum licensed capacity. Absence of this element within a returned value implies that the maximum capacity is temporarily unlimited. Attributes: non-creatable, non-modifiable
owner		string optional	Node that owns the serial number. Attributes: non-creatable, non-modifiable
			Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License,

package		licensed-package optional	• "snapvault" - SnapVault License, • "snaplock" - SnapLock Compliance License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "snaplock_enterprise" - SnapLock Enterprise License, • "insight_balance" - OnCommand Balance, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
reported-state		reported-capacity-state optional	Current state of capacity license. Attributes: non-creatable, non-modifiable Possible values: • "evaluation" - evaluation license in effect, • "missing" - license has been purchased but not yet installed, • "installed" - valid purchased license in effect, • "warning" - purchased license in use, but attached capacity is approaching maximum entitled amount, • "enforcement" - attached capacity exceeds amount permitted by purchased license
serial-number		node-serial-number optional	Serial number of the node. Attributes: key, non-creatable, non-modifiable

Element definition: **license-v2-cleanup**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
owner		string optional	Name of the controller associated with the license. Attributes: non-creatable, non-modifiable
			Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License,

package		licensed-package optional	• "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
reason		string optional	The reason the license can be cleaned up. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Serial number of the controller or cluster. Attributes: key, non-creatable, non-modifiable

Element definition: **license-v2-entitlement-risk-info**

[top]

Information about entitlement risk for license packages. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
action		string optional	Corrective action text. Attributes: non-creatable, non-modifiable
action-code		license-entitlement-risk-action optional	Corrective action needed to reduce cluster license entitlement risk. Attributes: non-creatable, non-modifiable Possible values: • "acquire_license" - Acquire a node-locked license, • "verify_entitlement" - Verify all controllers are entitled, • "verify_system_health" - Verify system health, • "none" - None
node-license-usage		node-license-usage-info[] optional	Node-locked license information and usage status for each node.
			Name of the license package Attributes: key, non-creatable, non-modifiable Possible values:

package		licensed-package optional	• "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
risk		license-entitlement-risk optional	Entitlement risk for the license package. Attributes: non-creatable, non-modifiable Possible values: • "high" - Cluster license entitlement risk is high, • "medium" - Cluster license entitlement risk is medium, • "low" - Cluster license entitlement risk is low, • "unlicensed" - No node-locked license present and corresponding features are not in use, • "unknown" - License entitlement is unknown

Element definition: **license-v2-info**

[top]

Information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
customer-id		string optional	Customer Identification. This field is used to track site licenses issued to Enterprise Level Agreement customers. It will typical be set to "none" unless a unique customer id has been assigned. This value is reported in Auto Support, and can be used to correlate licensing information with backend business systems for tracking purposes. Attributes: non-creatable, non-modifiable
description		string optional	Description of the licensed package. Attributes: non-creatable, non-modifiable

expiration-time		datetime optional	License expiration time. Attributes: non-creatable, non-modifiable
legacy		boolean optional	Legacy License. A legacy license indicates that the license was previously installed prior to this release. Returns true if the license was installed prior to this release and false otherwise.
owner		string optional	Controller or Cluster that owns the serial number. Attributes: non-creatable, non-modifiable
package		licensed-package optional	Name of the licensed package. Attributes: key, required-for-create, non-modifiable Possible values: • "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
serial-number		node-serial-number optional	Serial number of the controller or cluster. The license serial-number is reported in Auto Support also and can be used to correlate controller or cluster wide licensing information. Attributes: key, required-for-create, non-modifiable
type		license-v2-type optional	License type. Attributes: non-creatable, non-modifiable Possible values: • "license" , • "site" , • "demo" , • "subscr" , • "capacity"

Element definition: **license-v2-license-info**

[top]

Information about Data ONTAP licenses. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
detailed-status		string[] optional	Detailed status of license. Attributes: non-creatable, non-modifiable
license		licensed-package optional	License Name. Attributes: key, non-creatable, non-modifiable Possible values: • "base" - (DEPRECATED)-Cluster Base License, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapCenter License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License, • "fabricpool" - FabricPool License, • "snapmirror_sync" - SnapMirror Synchronous License, • "nvme_of" - NVMe-oF License, • "flexcache" - (DEPRECATED)-FlexCache License, • "capacitypool" - Capacity Pool License, • "mt_ek_mgmt" - Multi-tenant Encryption Key Management License, • "s3" - S3 License, • "snapmirror_cloud" - SnapMirror Cloud License, • "anti_ransomware" - Autonomous Ransomware Protection License, • "s3_snapmirror" - S3-SnapMirror License, • "s3_snapmirror_external" - S3-SnapMirror External License, • "all_san_array" - All SAN Array (ASA) Software License, • "performance_nas" - Enhanced NAS License
scope		licensescope optional	Scope of the license. Valid scope: node/cluster/site. Attributes: non-creatable, non-modifiable Possible values: • "na" - License scope NA, • "site" - Site Scope, • "cluster" - Cluster Scope, • "node" - Node Scope, • "pool" - Pool Scope
			Current status of the license. Attributes: key, non-creatable, non-modifiable Possible values: • "not_compliant" - Not Compliant,

status		licensestatus optional	• "eval" - Evaluation License, • "partially_installed" - Partially Installed, • "valid" - Valid, • "not_installed" - Not Installed, • "not_applicable" - Not Applicable, • "not_known" - Not Known

Element definition: **license-v2-result**

[top]

License operation result When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Additional information of the failure. Attributes: non-creatable, non-modifiable
entry		license-code-v2 optional	Failed license entry. Attributes: non-creatable, non-modifiable
errcode		license-v2-op-status optional	Failure error code. Attributes: non-creatable, non-modifiable

Element definition: **license-v2-status-info**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the licensed package. Attributes: non-creatable, non-modifiable
expiration-time		datetime optional	License expiration date. Attributes: non-creatable, non-modifiable
method		licensed-method	Method in which a package is licensed in a cluster. Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "license" - License,

		optional	"site" - Site, • "demo" - Demo, • "subscr" - Subscription
package		licensed-package optional	Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2, • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance License, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
status-details		string optional	More information about cluster level license status. Attributes: non-creatable, non-modifiable

Element definition: **license-v2-subscription-info**

[top]

Information about a subscription license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alert		string optional	Alert message for the given period Attributes: non-creatable, non-modifiable
description		string optional	Description of the licensed package. Attributes: non-creatable, non-modifiable
expiration		datetime optional	License expiration time. Attributes: non-creatable, non-modifiable
is-default		true-false	Is the node using default license Attributes: non-creatable, non-

		optional	modifiable
owner		string optional	Node that owns the serial number. Attributes: non-creatable, non-modifiable
package		licensed-package optional	Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values: • "nfs" - NFS License, • "cifs" - CIFS License, • "iscsi" - iSCSI License, • "fcp" - FCP License, • "snaprestore" - SnapRestore License, • "snapmirror" - SnapMirror License, • "flexclone" - FlexClone License, • "snapvault" - SnapVault License, • "snaplock" - SnapLock License, • "snapmanagersuite" - SnapManagerSuite License, • "snapprotectapps" - SnapProtectApp License, • "v_storageattach" - Virtual Attached Storage License, • "insight_balance" - OnCommand Balance, • "ocshift" - OnCommand Shift License, • "cloud" - Cloud ONTAP License, • "select" - ONTAP Select License, • "tpm" - Trusted Platform Module License, • "ve" - Volume Encryption License, • "dp_optimized" - Data Protection Optimized Secondary License • "snapmirror_sync" - SnapMirror Synchronous License • "nvme_of" - NVMe-oF License • "flexcache" - FlexCache License
serial-number		node-serial-number optional	Serial number of the node. Attributes: key, non-creatable, non-modifiable
state		licenseperiod optional	License state - valid/reminder/warning/enforcement. Attributes: non-creatable, non-modifiable Possible values: • "valid" - License is valid, • "reminder" - License is in reminder period, • "warning" - License is in warning period, • "enforcement" - License is in enforcement period

Element definition: **licensed-package**

[top]

Licensable Package Possible values:

- "base" - (DEPRECATED)-Cluster Base License,
- "nfs" - NFS License,
- "cifs" - CIFS License,
- "iscsi" - iSCSI License,
- "fcp" - FCP License,
- "snaprestore" - SnapRestore License,
- "snapmirror" - SnapMirror License,
- "flexclone" - FlexClone License,
- "snapvault" - SnapVault License,
- "snaplock" - SnapLock License,
- "snapmanagersuite" - SnapCenter License,

"snapprotectapps" - SnapProtectApp License,
- "v_storageattach" - Virtual Attached Storage License,
- "insight_balance" - OnCommand Balance,
- "ocshift" - OnCommand Shift License,
- "cloud" - Cloud ONTAP License,
- "select" - ONTAP Select License,
- "tpm" - Trusted Platform Module License,
- "ve" - Volume Encryption License,
- "dp_optimized" - Data Protection Optimized Secondary License,
- "fabricpool" - FabricPool License,
- "snapmirror_sync" - SnapMirror Synchronous License,
- "nvme_of" - NVMe-oF License,
- "flexcache" - (DEPRECATED)-FlexCache License,
- "capacitypool" - Capacity Pool License,
- "mt_ek_mgmt" - Multi-tenant Encryption Key Management License,
- "s3" - S3 License,
- "snapmirror_cloud" - SnapMirror Cloud License,
- "anti_ransomware" - Autonomous Ransomware Protection License,
- "s3_snapmirror" - S3-SnapMirror License,
- "s3_snapmirror_external" - S3-SnapMirror External License,
- "all_san_array" - All SAN Array (ASA) Software License,
- "performance_nas" - Enhanced NAS License

[none]

Element definition: **lm-config**

[top]

lm config info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
host		string optional	License Manager Host Attributes: non-creatable, modifiable

Element definition: **lm-status**

[top]

lm status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
status		string optional	Status Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

Element definition: **system-license-aggregate-info**

[top]

Information about Data ONTAP aggregate license status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-name		string optional	Aggregate name. Attributes: key, non-creatable, non-modifiable
aggr-size		size optional	Physical size of an aggregate. Attributes: non-creatable, non-modifiable
expiration		datetime optional	Lease expiration date of an aggregate. Attributes: non-creatable, non-modifiable
licensed-size		size optional	Licensed size. Attributes: non-creatable, non-modifiable
node		node-name optional	Node Name Attributes: key, non-creatable, non-modifiable
			Current status of an aggregate. Attributes: non-creatable, non-

status		aggrlicstatus optional	modifiable Possible values: • "lease_not_required" - Lease not required, • "lease_up_to_date" - Lease is up to date, • "lease_expired" - Lease expired, • "lease_missing" - Lease missing, • "plex_deleted" - Plex deleted, • "aggregate_deleted" - Aggregate deleted, • "aggregate_license_size_decreased" - Aggregate license size decreased, • "aggregate_license_size_increased" - Aggregate license size increased, • "aggregate_status_unknown" - Aggregate status unknown

Element definition: **aggrlicstatus**

[top]

Aggregate License Status Possible values:

- "lease_not_required" - Lease not required,
- "lease_up_to_date" - Lease is up to date,
- "lease_expired" - Lease expired,
- "lease_missing" - Lease missing,
- "plex_deleted" - Plex deleted,
- "aggregate_deleted" - Aggregate deleted,
- "aggregate_license_size_decreased" - Aggregate license size decreased,
- "aggregate_license_size_increased" - Aggregate license size increased,
- "aggregate_status_unknown" - Aggregate status unknown

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **license-code-v2**

[top]

License Code V2

[none]

Element definition: **license-entitlement-risk**

[top]

high|medium|low|unlicensed|unknown Possible values:

- "high" - Cluster license entitlement risk is high,
- "medium" - Cluster license entitlement risk is medium,
- "low" - Cluster license entitlement risk is low,
- "unlicensed" - No node-locked license present and corresponding features are not in use,
- "unknown" - License entitlement is unknown

[none]

Element definition: **license-entitlement-risk-action**

[top]

acquire-license|adjust-capacity|verify-entitlement|verify-system-health|none Possible values:

- "acquire_license" - Acquire a node-locked license,
- "adjust_capacity" - Acquire license for larger system disk capacity, or reduce system capacity,
- "verify_entitlement" - Verify all controllers are entitled,
- "verify_system_health" - Verify system health,
- "none" - None

[none]

Element definition: **license-v2-op-status**

[top]

License Operation Status Possible values:

- "license_success" - Operation Completed Successfully,
- "license_invalid" - Failed: Invalid License Key,
- "license_expired" - Failed: License Expired,
- "license_notallowed" - Failed: Operation Not Allowed,
- "license_unavailable" - Failed: License NOT Available,
- "license_internal" - Failed: Internal Error,
- "license_err_unknown" - Failed: Unknown Error

[none]

Element definition: **license-v2-type**

[top]

This field indicates the type of a license. A typical license will be of "license" type, which indicates that it's associated with a specific controller. A "site" license is a special license provided under Enterprise Level Agreements. A "demo" license is a temporary license with an expiration time. It is usually issued for trial purposes only. A "subscr" license is a subscription with expiration date. Possible values:

- "license" ,
- "site" ,
- "demo" ,
- "subscr" ,

"capacity"

[none]

Element definition: **licensed-method**

[top]

none|license|site|demo|subscr|capacity|enabled Possible values:

- "none" - None,
- "license" - License,
- "site" - Site,
- "demo" - Demo,
- "subscr" - Subscription,
- "capacity" - Capacity,
- "enabled" - Enabled

[none]

Element definition: **licenseperiod**

[top]

valid|reminder|warning|enforcement Possible values:

- "valid" - License is valid,
- "reminder" - License is in reminder period,
- "warning" - License is in warning period,
- "enforcement" - License is in enforcement period

[none]

Element definition: **licensescope**

[top]

License scope Possible values:

- "na" - License scope NA,
- "site" - Site Scope,
- "cluster" - Cluster Scope,
- "node" - Node Scope,
- "pool" - Pool Scope

[none]

Element definition: **licensestatus**

[top]

License status Possible values:

- "not_compliant" - Not Compliant,
- "eval" - Evaluation License,
- "partially_installed" - Partially Installed,
- "valid" - Valid,
- "not_installed" - Not Installed,
- "not_applicable" - Not Applicable,
- "not_known" - Not Known

[none]

Element definition: **node-license-usage-info**

[top]

Node-locked license information and usage status for each node.

Name	Range	Type	Description
in-use		true-false optional	Usage status for the node. Attributes: non-creatable, non-modifiable
is-licensed		true-false optional	Whether the node has a node-locked license. Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node. Attributes: non-creatable, non-modifiable
serial-number		node-serial-number optional	Node Serial Number Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

Element definition: **reported-capacity-state**

[top]

evaluation|warning|missing|enforcement|installed Possible values:

- "evaluation" ,
- "warning" ,
- "missing" ,
- "enforcement" ,
- "installed"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **true-false**

[top]

True/False

[none]

APIs in Category: **lock**

lock-break-iter
lock-get-iter

This set of APIs provides the ability to view or break the current lock state in the clustered ONTAP environment. Locks can be viewed or broken according to a wide range of query fields that are presented in the lock-info definition. When utilizing these APIs, it is suggested that users provide as many fields as possible to optimize query processing.

lock-break-iter

[top]

Breaks one or more locks in the cluster that match the query.

Input Name	Range	Type	Description
max-records	**[1..2^32-1]**	integer optional	The maximum number of lock objects to be operated in this call. Default: 20
query		lock-info optional	If operating on a specific lock, this input element must specify all keys. If operating on lock objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of lock objects (just keys) that were not operated on due to some error. If set to false, the list of lock objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of lock objects (just keys) that were successfully operated on. If set to false, the list of lock objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		lock-break-iter-info[] optional	Information about lock objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching lock objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of lock objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of lock objects that matched the query and were successfully processed.
success-list		lock-break-iter-info[] optional	The lock objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EVOLUMEQUIESCED	

EVOLUMEOFFLINE	
ELOCK_RECONSTRUCTION_IN_PROGRESS	
ELOCK_SYNC_IN_PROGRESS	
EINTERNALERROR	

lock-get-iter

[top]

Returns information for one or more locks in the cluster that match the query.

Input Name	Range	Type	Description
desired-attributes		lock-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lock-info optional	A query that specifies which locks to return. A query could be specified on any number of attributes in the lock object. All lock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lock-info[] optional	The list of attributes of lock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lock objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
ELOCK_RECONSTRUCTION_IN_PROGRESS	
EINTERNALERROR	

Element definition: **lock-break-iter-info**

[top]

Information about the operation that was attempted/performed against lock object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
lock-key		lock-info	The key for the lock object to which the operation applies.

Element definition: **lock-info**

[top]

Information about a single lock in the cluster. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bytelock-length	**[0..2^64-1]**	integer optional	The length starting from the offset for a bytelock. Attributes: non-creatable, non-modifiable
bytelock-offset	**[0..2^64-1]**	integer optional	The starting offset for a bytelock. Attributes: non-creatable, non-modifiable
client-address		string optional	The IP address (IPv4/IPv6) for a set of locks owned by a client. Unavailable for NFSv4 or NFSv4.1 locks. Attributes: non-creatable, non-modifiable
client-address-type		string optional	The IP address interface type the client is connected over. Unavailable for NFSv4 or NFSv4.1 locks. Possible values: • "ipv4" , • "ipv6" ,
client-id		string optional	A unique client-id for a set of locks owned by a client. Attributes: non-creatable, non-modifiable
delegation-type		string optional	The type of delegation the lock has (NFSv4 only). Attributes: non-creatable, non-modifiable Possible values: • "read" , • "write"
flexcache-cluster		string optional	The name of the cluster hosting the FlexCache volume.
flexcache-lock-authority		string optional	Indicates the lock authority granted/denied to a FlexCache volume.
flexcache-volume		string optional	The name of the FlexCache volume that is the endpoint of the caching relationship, and is holding the lock.
flexcache-vserver		string optional	The name of the Vserver hosting the FlexCache volume.
is-bytelock-exclusive		boolean optional	Indicates if the bytelock is exclusive. Attributes: non-creatable, non-modifiable
is-bytelock-mandatory		boolean optional	Indicates whether the bytelock is mandatory or advisory. Attributes: non-creatable, non-modifiable
is-bytelock-soft		boolean optional	Indicates if the bytelock is softened. Attributes: non-creatable, non-modifiable A bytelock can become soft if an NFSv4 client loses connection. A soft bytelock may be reclaimed if the client reconnects. However, if another client were to request a bytelock that conflicts with a softened bytelock, then the softened bytelock will be released.

is-bytelock-super		boolean optional	Indicates if the bytelock is a priveledged super lock. Attributes: non-creatable, non-modifiable A super bytelock is used to grant a byte range lock regardless of conflicting lock state on the system. If there is conflicting lock state, those locks will be released before graning the super lock.
is-constituent		boolean optional	This field indicates if this volume is a constituent within another volume. For a FlexGroup, this field is true for all its constituents. This field is set to false for volumes which are not the constituents of a FlexGroup, including for constituents of an Infinite Volume. Attributes: non-creatable, non-modifiable
is-flexcache-lock		boolean optional	This field indicates if it the lock is held on a FlexCache volume.
is-sharelock-soft		boolean optional	Indicates if the sharelock is softened. Attributes: non-creatable, non-modifiable A sharelock can become soft if an NFSv4 client loses connection. A soft sharelock may be reclaimed if the client reconnects. However, if another client were to request a sharelock that conflicts with a softened sharelock, then the softened sharelock will be released.
lif		string optional	The logical interface the lock was created over. Attributes: key, non-creatable, non-modifiable
lock-state		string optional	The state of the lock. Attributes: non-creatable, non-modifiable Possible values: • "granted" , • "revoking" , • "revoked" , • "gwaiting" , • "ewaiting" , • "adjusted" , • "denied" , • "timedout" , • "subsumed" , • "gone" , • "unused" , • "waiting" , • "timeout"
lock-type		string optional	The type of lock. Attributes: non-creatable, non-modifiable Possible values: • "byte_range" - locks over a specific byte range of a file, • "share_level" - represent file opens, • "op_lock" - provide client-side caching semantics for SMB, • "delegation" - provide client-side caching for NFSv4
lockid		uuid optional	A unique ID for a lock. Attributes: key, non-creatable, non-modifiable
node		string optional	The node that the lock is on. Attributes: non-creatable, non-modifiable
oplock-cache-level		string optional	The current caching level for an oplock. Attributes: non-creatable, non-modifiable Possible values: • "exclusive" , • "level2" , • "batch" , • "null" , • "read_batch"

owner-id		string optional	A unique owner-id for a set of locks belonging to an owner. Attributes: non-creatable, non-modifiable
path		string optional	The file path (/volume/file) that is being locked. Attributes: key, non-creatable, non-modifiable
protocol		string optional	The protcol the lock was created with. Attributes: non-creatable, non-modifiable Possible values: • "cifs" , • "fcache" , • "nfsv4" , • "nlm" , • "nfsv4.1" , • "crposix" , • "cdmi"
sharelock-mode		string optional	The sharing level of a lock. Attributes: non-creatable, non-modifiable Possible values: • "delete_on_close" , • "read_deny_read" , • "read_deny_write" , • "read_deny_all" , • "read_deny_delete" , • "read_deny_none" , • "read_deny_read_write" , • "read_deny_read_delete" , • "read_deny_write_delete" , • "write_deny_read" , • "write_deny_write" , • "write_deny_all" , • "write_deny_delete" , • "write_deny_none" , • "write_deny_read_write" , • "write_deny_read_delete" , • "write_deny_write_delete" , • "delete_deny_read" , • "delete_deny_write" , • "delete_deny_all" , • "delete_deny_delete" , • "delete_deny_none" , • "delete_deny_read_write" , • "delete_deny_read_delete" , • "delete_deny_write_delete" , • "read_write_deny_read" , • "read_write_deny_write" , • "read_write_deny_all" , • "read_write_deny_delete" , • "read_write_deny_none" , • "read_write_deny_read_write" , • "read_write_deny_read_delete" , • "read_write_deny_write_delete" , • "read_delete_deny_read" , • "read_delete_deny_write" , • "read_delete_deny_all" , • "read_delete_deny_delete" , • "read_delete_deny_none" , • "read_delete_deny_read_write" , • "read_delete_deny_read_delete" , • "read_delete_deny_write_delete" , • "write_delete_deny_read" ,

			• "write_delete_deny_write" , • "write_delete_deny_all" , • "write_delete_deny_delete" , • "write_delete_deny_none" , • "write_delete_deny_read_write" , • "write_delete_deny_read_delete" , • "write_delete_deny_write_delete" , • "all_deny_read" , • "all_deny_write" , • "all_deny_all" , • "all_deny_delete" , • "all_deny_none" , • "all_deny_read_write" , • "all_deny_read_delete" , • "all_deny_write_delete" , • "none_deny_read" , • "none_deny_write" , • "none_deny_all" , • "none_deny_delete" , • "none_deny_none" , • "none_deny_read_write" , • "none_deny_read_delete" , • "none_deny_write_delete"
smb-connect-state		string optional	The connect state for a lock. (SMB only). Attributes: non-creatable, non-modifiable Possible values: • "connected" , • "disconnected" , • "reconnecting" , • "timedout"
smb-expiration-time	**[0..2^32-1]**	integer optional	The time left until a lock expires after being disconnected. (SMB only). Attributes: non-creatable, non-modifiable
smb-open-group-id		string optional	A unique open group ID for a set of locks. (SMB only). Attributes: non-creatable, non-modifiable
smb-open-type		string optional	The type of open for a lock (SMB only). Attributes: non-creatable, non-modifiable Possible values: • "none" , • "durable" , • "persistent"
volume		string optional	The volume containing the files that are locked. Attributes: key, non-creatable, non-modifiable
vserver		string optional	The vserver the lock is associated with. Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **lun**

lun-alignment-get-iter
lun-alignment-reset-statistics
lun-clear-persistent-reservation-info
lun-clone-list-info
lun-clone-split-start
lun-clone-split-status-list-info
lun-clone-split-stop
lun-clone-start
lun-clone-status-list-info
lun-clone-stop
lun-config-check-alua-conflicts-info
lun-config-check-cfmode-info
lun-config-check-info
lun-config-check-single-image-info
lun-config-check-wwpn-conflicts-info
lun-copy-cancel
lun-copy-get-iter
lun-copy-modify
lun-copy-pause
lun-copy-resume
lun-copy-start
lun-create-by-size
lun-create-clone
lun-create-from-file
lun-create-from-snapshot
lun-destroy
lun-generate-serial
lun-get-attribute
lun-get-attributes
lun-get-comment
lun-get-geometry
lun-get-inquiry-info
lun-get-iter
lun-get-maxsize
lun-get-minsize
lun-get-occupied-size
lun-get-persistent-reservation-info
lun-get-select-attribute
lun-get-serial-number
lun-get-space-reservation-info
lun-get-target-device-id
lun-get-vdisk-attributes
lun-has-scsi-reservations
lun-import-create
lun-import-delete
lun-import-get-iter
lun-import-pause
lun-import-resume
lun-import-start

lun-import-stop
lun-import-throttle
lun-import-verify-start
lun-import-verify-stop
lun-initiator-list-map-info
lun-initiator-logged-in
lun-list-info
lun-map
lun-map-add-reporting-nodes
lun-map-get-iter
lun-map-list-info
lun-map-remove-reporting-nodes
lun-move
lun-move-cancel
lun-move-get-iter
lun-move-modify
lun-move-pause
lun-move-resume
lun-move-start
lun-offline
lun-online
lun-os-type-list
lun-port-has-scsi-reservations
lun-reset-stats
lun-resize
lun-restore-status
lun-set-attribute
lun-set-comment
lun-set-device-id
lun-set-qos-policy-group
lun-set-select-attribute
lun-set-serial-number
lun-set-share
lun-set-space-alloc
lun-set-space-reservation-info
lun-snap-usage-list-info
lun-start
lun-stats-get-iter
lun-stats-list-info
lun-unmap
lun-unset-attribute
lun-unset-device-id

lun-alignment-get-iter

[top]

Iterate over a list of lun objects.

Input Name	Range	Type	Description
desired-		lun-align-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-align-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-align-info[] optional	The list of attributes of lun objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lun objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-alignment-reset-statistics

[top]

Reset LUN Alignment Statistics

Input Name	Range	Type	Description
path		lun-path	Path of the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

lun-clear-persistent-reservation-info

[top]

Clear the SCSI-2 reservation or SCSI-3 persistent reservation information for a given LUN. Note: In Data ONTAP Cluster-Mode, the LUN must either be offline or not mapped to clear the persistent reservation information.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.

Errno	Description
EVDISK_ERROR_NO_SUCH_VDISK	

EVOLUMEBUSY	
EVDISK_ERROR_VDISK_NOT_DISABLED	

Vfiler-enabled
Yes

lun-clone-list-info

[top]

Lists all LUN clones with valid backing snapshots in the given snapshot.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot.
volume		string	Name of the volume.

Output Name	Range	Type	Description
lun-clone-list		lun-clone-lists-info[]	List of LUN clones with valid backing snapshots in the given snapshot.

Errno	Description
EINVALIDINPUTERROR	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_NO_SUCH_SNAPSHOT	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-split-start

[top]

Start the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the clone to split from the underlying parent.
space-efficient-split-disabled		boolean optional	By default 'false', space-efficient LUN clone splitting is allowed. This parameter, if set to 'true', disables space-efficient splitting for this specific operation.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_CLONING_STARTED	

Errno	Description
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-split-status-list-info

[top]

Get the cloning status of LUN(s).

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
clone-status		clone-status-info[]	List of cloning statuses.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-split-stop

[top]

Stop the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN to stop cloning.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

[top]

lun-clone-start

Start the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN to clone.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_CLONING_STARTED	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-status-list-info

[top]

Get the cloning status of LUN(s).

Input Name	Range	Type	Description
path		string optional	Path of the LUN. If path is specified, only the status of that clone is returned. If path is not specified, then all cloning status are returned.

Output Name	Range	Type	Description
clone-status		clone-status-info[]	List of cloning status.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVDISK_ERROR_NO_SUCH_CLONE	
EVDISK_ERROR_CLONE_NOT_SPLITTING	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-clone-stop

[top]

Stop the cloning of the given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN to stop cloning.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-config-check-alua-conflicts-info

[top]

Returns a list of LUNs that have both FCP and iSCSI maps at the same time when ALUA is enabled on at least one of such FCP or iSCSI igroups. These conflicts must be resolved before any further maps (to those LUNs) can can take place.

Output Name	Range	Type	Description
conflicting-luns		conflicting-luns-list[] optional	If a lun is mapped to both FCP and iSCSI igroups at at the same time with ALUA enabled on at least one of those igroups, it leads to a conflict. These conflicts need to be resolved before any further maps can take place to the conflicting lun. Conflicts can either be resolved by unmapping one or more mappings or by disabling ALUA on FCP or iSCSI or both the igroups whichever is applicable.

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP;	

lun-config-check-cfmode-info

[top]

Returns a list of configuration warnings related to initiator groups and the FCP cfmode setting

Output Name	Range	Type	Description
fcp-cfmode		string optional	Current FCP cfmode setting. Possible values: dual_fabric, mixed, partner, standby, single_image
invalid-cfmode-settings		invalid-cfmode-setting-info optional	Local and partner cfmode settings if they do not match. cfmodes need to match on both filers in the cluster or cluster failover will not work properly
invalid-ostype-cfmode-settings		invalid-ostype-cfmode-setting-info[] optional	List of initiator groups with invalid OS types for the fcp-cfmode. Some host operating systems are only compatible with certain fcp-cfmodes

invalid-use-partner-cfmode-settings		invalid-use-partner-cfmode-setting-info[] optional	List of initiator groups with invalid use_partner settings for the FCP cluster failover mode (fcp-cfmode) Incorrect settings can cause hosts to lose LUNs during takeover.
invalid-use-partner-ostype-settings		invalid-use-partner-ostype-setting-info[] optional	List of initiator groups with invalid use_partner settings for the initiator group's OS type. Some host operating systems should only have certain use_partner settings to ensure proper behavior during failover.

Errno	Description
EINTERNALERROR	
EINVAL	

lun-config-check-info

[top]

Returns a list of LUN/FCP configuration warnings. These warnings are not related to filer cluster configuration.

Output Name	Range	Type	Description
alua-setting-mismatch-info		alua-setting-mismatch-initiator-group[] optional	list of initiator groups for which the ALUA (Asymmetric Logical Unit Access) settings do not match between local and partner filers. ALUA is a T10 standard that specifies the access characteristics (in terms of performance and supported SCSI commands) of a Logical Unit that can be accessed through more than one target port. ALUA is typically used by host multi-path software to recognize primary and secondary paths to a Logical Unit when more than one path are available to the Logical Unit. If the ALUA setting does not match between the local and partner filers, it would affect the host multi-path software's ability to distinguish primary and secondary paths. This could lead to incorrect system behaviour.
alua-setting-mismatch-initiators		alua-setting-mismatch-initiator-info[] optional	List of initiators which are members of initiator groups of differing alua settings.
fcp-down-hbas		fcp-down-hba-info[] optional	list of HBA names that have no link or are configured down.
invalid-vsa-settings		invalid-vsa-setting-info[] optional	List of initiator groups with invalid Volume Set Addressing (VSA) settings
mixed-ostype-initiators		mixed-ostype-initiator-info[] optional	List of initiators which are members of initiator groups of differing OS types.
mixed-vsa-		mixed-vsa-	List of initiators which are members of initiator groups with differing Volume Set Addressing (VSA) settings. An initiator can only be a

initiators		initiator-info[] optional	member of initiator groups which have the same VSA setting across all the initiator groups it is a member of.

Errno	Description
EINTERNALERROR	
EINVAL	

lun-config-check-single-image-info

[top]

Returns a list of configuration warnings that pertain to problems specific to the 'single_image' FCP cfmode. These errors must be fixed prior to upgrading any filer cluster to run in 'single_image' mode.

Output Name	Range	Type	Description
conflicting-initiators		conflicting-initiator-info[] optional	List of initiators which belong to initiator groups on the local filer which have different os type settings from the initiator groups on the partner.
conflicting-maps		conflicting-map-info[] optional	Only one lun in the cluster can be mapped to an initiator at a given lun-id. If a lun on each filer is mapped to the same initiator at the same lun-id there will be a conflict. These conflicts need to be resolved before a filer can be upgraded to run in the 'single_image' FCP cfmode. A conflict can be resolved by unmapping one lun and remapping it to an unused lun-id.
invalid-nodename-settings		invalid-nodename-setting-info optional	When running in the the single_image cfmode the FCP node name needs to be same on each filer in the cluster. If the node names are different the node names will be returned. If the cfmode is not set to single_image, then the node names will not be checked

Errno	Description
EVDISK_ERROR_PARTNER_NOT_REACHABLE	

lun-config-check-wwpn-conflicts-info

[top]

Determine if duplicate World Wide Port Names (WWPNs) are present on a cluster pair.

Output Name	Range	Type	Description
conflicting-wwpns		conflict-wwpn[] optional	If duplicate World Wide Port Names (WWPNs) are present on the HA pair, it leads to a conflict. This causes incorrect Asymmetric Logical Unit Access (ALUA) states to be advertised for all LUNs. To resolve the conflict use 'lun config set' command to set local.single_image.key and partner.single_image.key on both the nodes of the HA pair.

Errno	Description
EOPNOTSUPPORTED	
EONTAPI_ENOMEM	

lun-copy-cancel

[top]

Cancels an ongoing LUN copy operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, use the lun-destroy API to delete the LUN at the destination path.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	
EOD_CANT_CANCEL_OPERATION	

lun-copy-get-iter

[top]

Iterate over a list of LUN copy job detail objects.

Input Name	Range	Type	Description
desired-attributes		lun-copy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-copy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN copy job detail object. All LUN copy job detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-copy-info[] optional	The list of attributes of LUN copy job detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more LUN copy job detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-copy-modify

[top]

Modifies the maximum throughput of an ongoing copy operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.
max-throughput		size	Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-copy-pause

[top]

Pauses an ongoing LUN copy operation. Use the lun-copy-resume API to resume the copy operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

[top]

lun-copy-resume

Resumes a paused LUN copy operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this copy operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-copy-start

[top]

Starts copying a group of LUNs from one volume to another. The destination volume can be located on the same Vserver as the original volume or on a different Vserver. If source-vserver is not specified, the source Vserver defaults to the target Vserver, i.e., an intra-Vserver copy. Intra-Vserver copy can be initiated by both cluster and Vserver administrators. Inter-Vserver copy can be initiated by cluster administrators only. Note: A cluster administrator must first create a Vserver peer relationship using vserver-peer-create API before a Vserver administrator can copy over LUNs from another Vserver in the cluster. This restriction does not apply to cluster administrators. Cluster administrators can initiate inter-Vserver LUN copy operations without creating a Vserver peer relationship.

Input Name	Range	Type	Description
destination-vserver		vserver-name	Specifies the name of the Vserver that will host the new LUNs.
max-throughput	**[0..2^63-1]**	integer optional	Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.
paths		lun-path-pair[]	Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be copied. All the source LUNs must be on the same volume. All the LUNs must be copied into a single volume.
promote-early		boolean optional	Specifies that the destination needs to be promoted early. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN copy operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN copy job will not block snapshots of the volume containing the new LUN.
			Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being copied will be transferred as a difference from the reference LUN.

reference-path		string optional	This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified.
source-vserver		vserver-name optional	Specifies the name of the Vserver hosting the LUNs to be copied. Default: same as destination-vserver (intra-Vserver copy).

Output Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) for the LUN copy job.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EOD_INVALID_ECV	
EOD_DEST_LUN_EXISTS	
EOD_DEST_LUNS_NOT_ON_SAME_VOLUME	
EOD_DEST_IS_FLEXCACHE	
EQTREE_DOES_NOT_EXIST	
EOP_DISALLOWED_VSERVER_ROOT	
EOD_COPY_DUP_DEST_PATH	
EOD_SRC_LUN_NOT_FOUND	
EOD_SRC_LUNS_NOT_ON_SAME_VOLUME	
EOD_SRC_LUN_IS_PE	
EOD_LUN_IN_NVFAILED_STATE	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EOD_LUN_MAX_COUNT_VIOLATION	
EOD_REF_PATH_NOT_IN_SOURCE_PATHS	
EOD_COPY_DEST_IS_SNAPSHOT	
EOD_NO_VSERVER_PEERING	
EOD_VSERVER_PEERING_NO_LUN_COPY_APP	
EOD_VSERVER_PEERING_NOT_READY	
EOD_DEST_IN_CFT_PRECOMMIT	

lun-create-by-size

[top]

Create a new lun of given size, with initially zero contents. The lun is created at the path given. No file should already exist at the given path. The directory specified in the path must be a qtree root directory. The size of the created lun could be larger than the size specified, in order to get an integral number of cylinders while reporting the geometry using SAN protocols.

Input Name	Range	Type	Description
class		string optional	The class of the LUN. Possible values: • "regular" - The LUN is for normal blocks access, • "protocol_endpoint" - The LUN is a vvol protocol endpoint, • "vvol" - The LUN is a vvol data LUN. The default value is "regular".

comment		string optional	A description for the LUN being created. The comment can be at most 254 characters.
foreign-disk		string optional	Foreign Disk serial number. New size of the LUN will be of exact capacity as that of the Foreign Disk. For Foreign LUN Import, the LUN and Foreign Disk must be the exact same capacity. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode. This field is available in Data ONTAP 8.3 and later.
ostype		lun-os-type optional	The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it.
path		string	Path of the LUN.
prefix-size	**[0..2^63-1]**	integer optional	The size of the prefix stream for this lun in bytes. Certain OS types store a small portion of the data corresponding to partition tables (or similar structures) in the prefix stream. This is part of the lun data and is transparent to hosts that access the LUN via block protocols. The default size is based on the OS type. Giving a value here overrides the default, but, it is strongly recommended to avoid changing this default size. The value in this field must be a multiple of 512 bytes. Note that this value has no effect when the lun-os-type is "image". This option is available in Data ONTAP 8.1 and later.
qos-adaptive-policy-group		string optional	QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later
qos-policy-group		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later
size	**[0..2^63-1]**	integer optional	New size for the LUN in bytes. This field is required for Data ONTAP 7-Mode. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode.
space-allocation-enabled		boolean optional	The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space allocation. The default is false.
space-reservation-enabled		boolean optional	Default is true. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved.
use-exact-size		boolean optional	Use the exact size specified instead of rounding to best fit geometry. If true, size must be a multiple of 512. The default value is false. This field may not be specified in combination with foreign-disk. This field is available in Data ONTAP 9.2 and later.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	The actual size of the LUN that was created, in bytes.

Errno	Description
EINVALIDINPUTERROR	
EOFFLINE	
EISDIR	
EONTAPI_EEXIST	

ENAMETOOLONG
EONTAPI_ENOENT
EFTYPE
EONTAPI_EINVAL
EONTAPI_ENOSPC
EOP_DISALLOWED_VSERVER_ROOT
EVDISK_ERROR_NOT_QTREE_ROOT
EVDISK_ERROR_NO_SUCH_VOLUME
EVDISK_ERROR_NO_SUCH_DIRECTORY
EVDISK_ERROR_FILE_IS_SPC_RESERVED
EVDISK_ERROR_INVALID_SNAPSHOT_PATH
EVDISK_ERROR_NOT_IN_SAME_VOLUME
EVDISK_ERROR_SIZE_TOO_SMALL
EVDISK_ERROR_SIZE_TOO_LARGE
EVDISK_ERROR_VDISK_EXISTS
EVDISK_ERROR_VOLUME_SPARSE
EVDISK_ERROR_TOO_MANY_LUNS
EVDISK_SYNC_CAPB_MISMATCH
EVOLUMEBUSY
E_QOS_OBJECT_OVERLAP_ERROR
E_QOS_NO_SUCH_PG
E_QOS_TOO_MANY_USER_WIDS
E_QOS_VSERVERIZATION_VIOLATION
E_QOS_LUN_CREATE_MODIFY
E_QOS_LUN_PG_REMOVE
EFLI_ERROR_NO_SUCH_FOREIGN_DISK
EFLIHI_DISK_READ_ERROR
EFLIHI_INVALID_FIELD
EFLIHI_RESOURCE_LIMIT
EFLI_UNSUPPORTED_SECTOR_SIZE

Vfiler-enabled
Yes

lun-create-clone

[top]

Create a LUN clone.

Input Name	Range	Type	Description
parent-lun-path		string	Path of original LUN.
parent-snap		string	LUN path of the backing snapshot.
path		string	Path of the LUN clone.
space-reservation-enabled		boolean optional	By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_CLONING_STARTED	
EVOLUMEBUSY	
EVDISK_ERROR_SOURCE_IS_VMALIGNED	

Vfiler-enabled
Yes

lun-create-from-file

[top]

Create a lun from an existing file. A new lun is created, at the given lun path (which must be at a qtree root). A hard link is created to the existing file. The file contents are not copied or changed. The file can be resized to a larger size, rounding up to a cylinder boundary. NOTE: LUNs created from files cannot be relocated.

Input Name	Range	Type	Description
class		string optional	The class of the LUN. Possible values: • "regular" - The LUN is for normal blocks access, • "protocol_endpoint" - The LUN is a vvol protocol endpoint, • "vvol" - The LUN is a vvol data LUN. The default value is "regular".
comment		string optional	A description for the LUN being created. The comment can be at most 254 characters.
file-name		string	A fully qualified filer path to the file to create the LUN from. This must be in the same qtree as the LUN being created. The file must also be in the root of the volume or in a qtree/regular directory in the root of the volume or in a regular directory in a qtree.
ostype		lun-os-type optional	The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it.
path		string	Would be Path of the newly created LUN if successful. This Path must not exist already (i.e a file or dir with this same path).
qos-adaptive-policy-group		string optional	QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later
qos-policy-group		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later
space-allocation-enabled		boolean optional	The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space

			allocation. The default is false.
space-reservation-enabled		boolean optional	Default is true. If it is desired to manage space usage manually instead, this can be set to false which will create a LUN without any space being reserved.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	The actual size of the LUN that was created, in bytes.

Errno	Description
EINVALIDINPUTERROR	
EOFFLINE	
EISDIR	
EONTAPI_EEXIST	
ENAMETOOLONG	
EONTAPI_ENOENT	
EFTYPE	
EONTAPI_EINVAL	
EONTAPI_ENOSPC	
EOP_DISALLOWED_VSERVER_ROOT	
EVDISK_ERROR_NOT_QTREE_ROOT	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_NO_SUCH_DIRECTORY	
EVDISK_ERROR_SOURCE_IS_VDISK	
EVDISK_ERROR_FILE_IS_SPC_RESERVED	
EVDISK_ERROR_INVALID_SNAPSHOT_PATH	
EVDISK_ERROR_NOT_IN_SAME_VOLUME	
EVDISK_ERROR_SIZE_TOO_SMALL	
EVDISK_ERROR_SIZE_TOO_LARGE	
EVDISK_ERROR_VDISK_EXISTS	
EVDISK_ERROR_VOLUME_SPARSE	
EVOLUMEBUSY	
EVDISK_ERROR_SOURCE_IS_VMALIGNED	
EVDISK_ERROR_UNSUPPORTED_INPUT	
EVDISK_ERROR_TOO_MANY_LUNS	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_LUN_CREATE_MODIFY	
E_QOS_LUN_PG_REMOVE	

Vfiler-enabled
Yes

lun-create-from-snapshot

[top]

Creates a LUN in the active file system. The lun has the same initial contents as the referenced snapshot copy of an existing lun. (Note that no copy of the data is made.) Future writes go into the new lun. Reads of unmodified data are satisfied from the snapshot location. Reads of modified data are satisfied by first attempting to find the required buffer in the new lun. If a buffer is not found (buffer corresponds to a hole), it is looked for in the snapshot copy instead.

Input Name	Range	Type	Description
path		string	Path of the LUN.
snapshot-lun-path		string	LUN path in the snapshot to be created from.
space-reservation-enabled		boolean optional	By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved.
type		lun-os-type optional	The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	The actual size of the LUN that was created, in bytes.

Errno
EINVALIDINPUTERROR
EOFFLINE
EISDIR
EONTAPI_EEXIST
ENAMETOOLONG
EONTAPI_ENOENT
EFTYPE
EONTAPI_EINVAL
EONTAPI_ENOSPC
EVDISK_ERROR_NOT_QTREE_ROOT
EVDISK_ERROR_NO_SUCH_VOLUME
EVDISK_ERROR_NO_SUCH_DIRECTORY
EVDISK_ERROR_SOURCE_IS_VDISK
EVDISK_ERROR_FILE_IS_SPC_RESERVED
EVDISK_ERROR_INVALID_SNAPSHOT_PATH
EVDISK_ERROR_NOT_IN_SAME_VOLUME
EVDISK_ERROR_SIZE_TOO_SMALL
EVDISK_ERROR_SIZE_TOO_LARGE
EVDISK_ERROR_VOLUME_SPARSE
EVOLUMEBUSY

Vfiler-enabled
Yes

lun-destroy

[top]

Destroy the specified LUN. This operation will fail if the LUN is currently mapped and is online. The force option can be used to destroy it regardless of being online or mapped.

Input Name	Range	Type	Description
destroy-application-lun		boolean optional	Required to delete a LUN that belongs to an application. If true, override checks that prevent a LUN from being destroyed while it is part of an application. The default if not specified is "false". This field is available in Data ONTAP 9.2 and later.
destroy-fenced-lun		boolean optional	If "true", override checks that prevent a LUN from being destroyed while it is fenced. If "false", attempting to destroy a fenced LUN will fail. The default if not specified is "false". This field is available in Data ONTAP 8.2 and later.
force		boolean optional	If "true", override checks that prevent a LUN from being destroyed if it is online and mapped. If "false", destroying an online and mapped LUN will fail. The default if not specified is "false".
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_EXPORTED	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_VOLUME_TRANSITIONING	
EVDISK_ERROR_LUN_IN_SYNC_DR_CG	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-generate-serial

[top]

Generate a LUN Serial Number for later use.

Output Name	Range	Type	Description
serial-number		string	Serial Number

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

lun-get-attribute

[top]

Get a named attribute for a given LUN.

Input Name	Range	Type	Description
name		string	Attribute to get.
path		string	Path of the LUN.

Output Name	Range	Type	Description
value		string	Value of the attribute.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	

Vfiler-enabled
Yes

lun-get-attributes

[top]

Get named attributes for a given LUN.

Input Name	Range	Type	Description
name		string optional	Filter for the requested attribute names. SMF wildcards are allowed. If not specified, all available attributes on the LUN will be returned.
path		string	Path of the LUN.

Output Name	Range	Type	Description
attributes		lun-attribute-info[] optional	List of selected attribute name/value pairs. If there are not user attributes set on the LUN, or no attributes match the 'name' filter if specified, this field will not be returned.

Errno	Description
EINVALIDINPUTERROR	

lun-get-comment

[top]

Get the optional descriptive comment for a LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description

comment		string	Comment for given LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-geometry

[top]

Get SCSI disk geometry for a given LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
bytes-per-sector	**[0..2^31-1]**	integer	Sector size in bytes.
cylinders	**[0..2^31-1]**	integer optional	Number of cylinders in the LUN The size of the LUN can be calculated like this: cylinders tracks-per-cylinder sectors-per-track X bytes-per-sector ---------- size This field is not present for LUNs that do not report Cylinder-Head-Sector geometry.
max-resize-size	**[0..2^63-1]**	integer	The maximum size this LUN can be resized to in bytes. LUN resize for LUNs that report Cylinder-Head-Sector (CHS) geometry is limited by the lun cylinder size which can not be increased beyond 65535. This number is calculated using a cylinder count of 65535, in place of the LUNs actual cylinder size. LUNs that do not report CHS geometry may be resized to the maximum LUN size supported by the current Data ONTAP version.
sectors-per-track	**[0..2^31-1]**	integer optional	Number of sectors in a track. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry.
size	**[0..2^63-1]**	integer	LUN size in bytes.
tracks-per-cylinder	**[0..2^31-1]**	integer optional	Number of tracks in a cylinder. This is also commonly referred to as the number of heads. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-inquiry-info

[top]

Get the SCSI INQUIRY response data for vendor id (vid), product id (pid), and firmware revision (rev) based on the igroup that the lun in question is mapped to.

Input Name	Range	Type	Description
initiator-group-name		string	The initiator group for which the vid/pid/rev information is to be returned.

Output Name	Range	Type	Description
firmware-revision		string	SCSI INQUIRY response revision (padded with spaces to 4-characters).
product-id		string	SCSI INQUIRY response product id (padded with spaces to 16-characters).
vendor-id		string	SCSI INQUIRY response vendor id (padded with spaces to 8-characters).

Errno	Description
EVDISK_ERROR_NO_SUCH_INITGROUP	

Vfiler-enabled
Yes

lun-get-iter

[top]

Iterate over a list of lun objects.

Input Name	Range	Type	Description
desired-attributes		lun-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
disallow-lldb		boolean optional	Disallow use of the LUN location database. When true, this will cause the system to scan every volume for LUNs rather than directing the search to only those volumes known to have LUNs.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-info[] optional	The list of attributes of lun objects.

next-tag		string optional	Tag for the next call. Not present when there are no more lun objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
volume-errors		volume-error[] optional	List of errors encountered while retrieving LUN inventory

Errno	Description
EINTERNALERROR	

lun-get-maxsize

[top]

Returns the maximum possible size in bytes of a lun on a given volume or qtree. The user can pass the path to a volume or qtree in which the lun is to be created. This returns the maximum size for different types of LUNs and the possible maximum size with or without snapshot reserves.

Input Name	Range	Type	Description
path		string	Path of the volume or qtree.
type		lun-os-type	OS type of the LUN.

Output Name	Range	Type	Description
with-complete-snapshot-reserve	**[0..2^63-1]**	integer	Maximum possible size for LUN with snapshot reserve assuming 100% fractional reserve
with-snapshot-reserve	**[0..2^63-1]**	integer	Maximum possible size for LUN with snapshot reserve.
without-snapshot-reserve	**[0..2^63-1]**	integer	Maximum possible size for LUN without snapshot reserve.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EOP_DISALLOWED_VSERVER_ROOT	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-minsize

[top]

Returns the minimum possible size in bytes. This returns the minimum size for different types of LUNs (based on the specified OS type). Space reservation does not affect the minimum lun size, thus only a single minimum size is returned.

Input Name	Range	Type	Description

type		lun-os-type	OS type of the LUN.

Output Name	Range	Type	Description
min-size	[0..2^63-1]	integer	Minimum possible size for LUN.

Errno	Description
EINVALIDINPUTERROR	

lun-get-occupied-size

[top]

Get the size occupied by the LUN in the active FS.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
occupied-size	[0..2^63-1]	integer	Size occupied by the LUN in the Active FS in bytes.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EVDISK_ERROR_NO_SUCH_VDISK	
EONTAPI_ESTALE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-persistent-reservation-info

[top]

Get the persistent reservation information for a given LUN.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.

Output Name	Range	Type	Description
persistent-reservation		persistent-reservation-info[] optional	This is the persistent reservation information for a given I_T nexus if any exist for the given lun. The communication path and state between an initiator and a target is called an Initiator_Target Nexus, or I_T Nexus. The I_T Nexus is the owner of the persistent reservation information. There can be several I_T Nexus that have registered per lun. Each I_T Nexus can only register one time per lun.

Errno	Description
EVDISK_ERROR_NO_SUCH_VDISK	

EONTAPI_ENOMEM	
EINVALIDINPUTERROR	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-select-attribute

[top]

Get the select attribute for the specified LUN.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
creation-time		string	The time this lun was created, in human readable format. This field is deprecated in Data ONTAP 8.1. Instead, use creation-timestamp.
creation-timestamp	**[0..2^31-1]**	integer	The time this lun was created, in seconds since January 1, 1970. This field is available in Data ONTAP 8.1 and later.
previous-serial		string optional	The serial number of the previous lun. If this lun is not a clone or copy, no previous-serial number exists.
select-attribute		string	The select attribute for the lun. Possible values: • "active" - this is an active lun, • "copy" - this is a clone or copy of an active lun, • "mirror" - this is a mirror of an active lun.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-serial-number

[top]

Get the serial number for the specified LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ .

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
serial-number		string	Serial number for the LUN.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-get-space-reservation-info

[top]

Queries the space reservation settings for the named LUN.

Input Name	Range	Type	Description
path		string	Name of the LUN to be queried.

Output Name	Range	Type	Description
is-enabled		boolean	Whether or not the LUN has space reservation enabled.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-get-target-device-id

[top]

Returns the SCSI Target Device Id.

Input Name	Range	Type	Description
lun-serial-id		string	Serial number of the lun.

Output Name	Range	Type	Description
target-device-id		string	SCSI Target Device Id. This is defined by Network Appliance. Currently a string of numbers preceded by "naa.600A098".

Errno	Description

Errno	Description
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

lun-get-vdisk-attributes

[top]

Lookup a LUN path and storage system by serial number.

Input Name	Range	Type	Description
serial-number		string	Serial number for the LUN.

Output Name	Range	Type	Description
filer-name		string	In Data ONTAP 7-Mode, this is the name of the storage system or vfiler containing the LUN. In Data ONTAP Cluster-Mode, this is the name of the Vserver containing the LUN.
path		string	Path for the specified LUN, for example: "/vol/vol0/lun1".
vdisk-snapshot-name		string	Path to the backing snapshot file for the LUN, for example: "/vol/vol1/.snapshot/snapshot/lun". This field will be empty if the LUN is not backed by a snapshot file.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
ENOENT	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.

Output Name	Range	Type	Description
is-reservation-held		boolean	'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise.

Errno	Description
EINVALIDINPUTERROR	

EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-import-create

[top]

Create a LUN import relationship with the purpose of importing foreign disk data into the LUN.

Input Name	Range	Type	Description
foreign-disk		string	Foreign Disk Serial Number
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_ERROR_NO_SUCH_FOREIGN_DISK	
EFLI_ERROR_DISK_NOT_MARKED_FOREIGN	
EFLI_FOREIGN_DISK_ALREADY_IN_IMPORT	
EFLI_LUN_ALREADY_IN_IMPORT	
EFLI_CAPACITY_MISMATCH	
EFLI_BLOCK_SIZE_MISMATCH	
EFLI_FOREIGN_DISK_NOT_ACCESSIBLE	
EFLI_FOREIGN_DISK_HAS_NO_LOCAL_PATH	
EFLI_FOREIGN_DISK_OPEN_FAILED	
EFLI_LUN_NOT_MAPPED	
EFLI_LUN_NOT_BOUND	
EFLI_FOREIGN_DISK_HAS_RESERVATIONS_ZAPI	
EFLI_LUN_SHOULD_BE_OFFLINE	
EFLI_NOT_REGULAR_LUN	
EFLI_SPACE_ALLOC_NOT_ALLOWED	
E_SAN_NOT_READY	

lun-import-delete

[top]

Deletes the import relationship of the specified LUN or the specified foreign disk.

Input Name	Range	Type	Description
force		boolean optional	Force flag. If set to true, the import relationship would be deleted even if import is in progress. Default: false
foreign-		string	

disk		optional	Foreign disk serial number
path		lun-path optional	Path of the LUN
vserver		string optional	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_ERROR_NO_SUCH_FOREIGN_DISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_FOREIGN_DISK_NOT_IN_IMPORT	
EFLI_IMPORT_IN_PROGRESS	
EFLI_IMPORT_VERIFY_IN_PROGRESS	
EFLI_FOREIGN_DISK_IMPORT_IN_PROGRESS	
EFLI_FOREIGN_DISK_IMPORT_VERIFY_IN_PROGRESS	
EFLI_DELETE_NO_LUN	
EFLI_DELETE_NO_LUN_FOREIGN_DISK	
E_SAN_NOT_READY	

lun-import-get-iter

[top]

Iterate over a list of LUN objects that are in a relationship with a foreign disk.

Input Name	Range	Type	Description
desired-attributes		lun-import-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-import-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Foreign LUN Import relationship object. All Foreign LUN Import relationship objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-import-info[] optional	The list of attributes of Foreign LUN Import relationship objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Foreign LUN Import relationship objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

lun-import-pause

[top]

Pause the import for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_NOT_STARTED	
EFLI_IMPORT_ALREADY_STARTED	
EFLI_IMPORT_COMPLETED	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-resume

[top]

Resume the import for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_NOT_PAUSED	
EFLI_RESUME_FAILED	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-start

[top]

Start the import for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_VERIFY_IN_PROGRESS	
EFLI_IMPORT_ALREADY_STARTED	
EFLI_IMPORT_IN_PAUSED_ZAPI	
EFLI_DST_NO_SPACE	
EFLI_DST_NOT_AVAILABLE	
EFLI_VERIFY_ACTIVE	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-stop

[top]

Stop and abort the import for the specified LUN. All import checkpoint data will be lost.

Input Name	Range	Type	Description
path		lun-path	LUN Path
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_NOT_STARTED	
EFLI_IMPORT_ALREADY_STOPPED	
EFLI_NOT_READY	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-import-throttle

[top]

Modify the max throughput limit for the specified import relationship

Input Name	Range	Type	Description
max-throughput-limit		size	Maximum Throughput Limit(in bytes per sec) at which the given import will be throttled.
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_NOT_CURRENT_NODE	
EFLI_THROTTLE_NOSUPPORT	
E_SAN_NOT_READY	

lun-import-verify-start

[top]

Start the verification of the foreign disk and LUN data. The import admin/operational state must be stopped/stopped or started/completed. The verification does a block for block comparison of the LUN and foreign disk. If the verification detects a mismatch between the foreign disk and LUN then the verify will stop.

Input Name	Range	Type	Description
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_VERIFY_ALREADY_STARTED	
EFLI_NOT_CURRENT_NODE	
EFLI_IMPORT_NOT_COMPLETE	
EFLI_LUN_ONLINE_VERIFY_FAIL	
E_SAN_NOT_READY	

lun-import-verify-stop

[top]

Stop the verify for the specified LUN.

Input Name	Range	Type	Description
path		lun-path	Path of the LUN
vserver		string	Vserver containing the LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EFLI_LUN_NOT_IN_IMPORT	
EFLI_IMPORT_VERIFY_NOT_IN_PROGRESS	
EFLI_NOT_CURRENT_NODE	
E_SAN_NOT_READY	

lun-initiator-list-map-info

[top]

List all the LUNs mapped to an initiator

Input Name	Range	Type	Description
initiator		string	initiator to check

Output Name	Range	Type	Description
lun-maps		lun-map-info[] optional	List of lun maps for the given initiator.

Errno	Description
EINVAL	
EAPIERROR	

Vfiler-enabled
Yes

lun-initiator-logged-in

[top]

Determine if an initiator is logged in via FCP or iSCSI.

Input Name	Range	Type	Description
initiator		string	Name of FCP or iSCSI initiator to check.

Output Name	Range	Type	Description
is-logged-in		boolean	true if initiator is logged into the filer, false otherwise.

Errno	Description
EINVAL	
EAPIERROR	

Vfiler-enabled
Yes

lun-list-info

[top]

Get the status (size, online/offline state, shared state, comment string, serial number, LUN mapping) of the given LUN, or all LUNs.

Input Name	Range	Type	Description
get-clone-backing-snapshot		boolean optional	If specified, the name of the backing snapshot for a LUN clone is returned. The default value is false.
path		string optional	Path of LUN. If specified, only the information of that LUN is returned. This option can only be used if volume-name is not used.
volume-name		string optional	Name of a volume. If specified, only the information of the LUNs in that volume is returned. This option can only be used if path is not specified.

Output Name	Range	Type	Description
are-vols-busy		boolean	Indicates whether any volumes are moving. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false.
are-vols-onlining		boolean	Indicates whether any volumes are still in the process of onlining. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false.
luns		lun-info[]	Information of a list of LUNs.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
ENOSYS	
EONTAPI_ENOMEM	
EONTAPI_ESTALE	
EVDISK_ERROR_VOLUMES_ONLINING	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-map

[top]

Maps the LUN to all the initiators in the specified initiator group.

Input Name	Range	Type	Description

additional-reporting-node		node-name optional	Report the newly created LUN map from the specified node and its HA partner in addition to the current owning nodes of the LUN. This field is available in Data ONTAP 8.3 and later.
force		boolean optional	Forcibly map the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored.
initiator-group		string	Initiator group to map to the given LUN.
lun-id	**[0..4095]**	integer optional	If the lun-id is not specified, the smallest number that can be used for the various initiators in the group is automatically picked.
path		string	Path of the LUN.

Output Name	Range	Type	Description
lun-id-assigned	**[0..4095]**	integer	LUN ID assigned for this map. If lun-id is not supplied, this will be an auto-assigned LUN ID, otherwise it will be the same as the supplied LUN ID if map is successful.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOSPCAGGR	
EONTAPI_EROFS	
EVDISK_ERROR_INITGROUP_HAS_VDISK	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVDISK_ERROR_PARTNER_HAS_LUN	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_ISCSI_IGROUP	
EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_FCP_IGROUP	
EVDISK_ERROR_LUN_HAS_ISCSI_IGROUP	
EVDISK_ERROR_LUN_HAS_FCP_IGROUP	
EVDISK_ERROR_LUN_HAS_ALUA_CONFLICTS	
EVDISK_ERROR_TOO_MANY_LUNS	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
E_SAN_MISSING_REQUIRED_LIFS	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-map-add-reporting-nodes

[top]

Add nodes to the list reporting the LUN map. If no specific action is provided, adds all the nodes in the current failover group for the LUN.

Input Name	Range	Type	Description
all		boolean optional	When specified and true, report the LUN from all eligible nodes.

destination-aggregate		string optional	The name of an aggregate. When specified, adds the nodes appropriate for the aggregate in preparation for a mobility event that will change the LUN's containing aggregate to the value specified.
destination-volume		string optional	The name of a volume. When specified, addds teh nodes appropriate for the volume in preparation for a mobility event that will change the LUN's containing volume to the value specified.
igroup		string	The initiator group the LUN is mapped to.
nodes		filer-id[] optional	The name of one or more nodes. When specified, add the specific nodes and HA partners to the map.
path		string	The path of the LUN.

Errno	Description
EAGGRDOESNOTEXIST	
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_EDISABLED	
EVDISK_ERROR_NO_SUCH_LUNMAP	
EVOLUMEDOESNOTEXIST	
E_SAN_NOT_READY	

lun-map-get-iter

[top]

Iterate over a list of LUN map detail objects.

Input Name	Range	Type	Description
desired-attributes		lun-map-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-map-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN map detail object. All LUN map detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-map-info[] optional	The list of attributes of LUN map detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more LUN map detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

volume-errors		volume-error[] optional	List of errors encountered while retrieving LUN inventory

Errno	Description
EINTERNALERROR	

lun-map-list-info

[top]

Returns a list of initiator groups and their members (the initiators) mapped to the given LUN.

Input Name	Range	Type	Description
path		string	LUN for which the initiator group list is requested.

Output Name	Range	Type	Description
initiator-groups		initiator-group-info[] optional	List of initiator groups that are mapped to the given LUN.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-map-remove-reporting-nodes

[top]

Remove nodes from the list reporting the LUN map. If no specific action is provided, remove all nodes not in the current failover group for the LUN.

Input Name	Range	Type	Description
igroup		string	The initiator group the LUN is mapped to.
nodes		filer-id[] optional	The name of one or more nodes. When specified, remove the specific nodes and HA partners from the map.
path		string	The path of the LUN.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_EDISABLED	
EVDISK_ERROR_NO_SUCH_LUNMAP	
E_SAN_NOT_READY	

lun-move

[top]

Move (rename) a LUN.

Input Name	Range	Type	Description
new-path		string	New path of the LUN being moved to.
path		string	Path of the LUN to be moved.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EISDIR	
EONTAPI_EEXIST	
EOFFLINE	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NOT_QTREE_ROOT	
EVDISK_ERROR_NOT_IN_SAME_VOLUME	
EVDISK_ERROR_VDISK_EXISTS	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IN_SYNC_DR_CG	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-move-cancel

[top]

Cancels an ongoing LUN move operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, allow the current move operation to complete and then move it back using the lun-move-start API.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	

EOBJECTNOTFOUND	
EOD_CANT_CANCEL_OPERATION	

lun-move-get-iter

[top]

Iterate over a list of LUN move job detail objects.

Input Name	Range	Type	Description
desired-attributes		lun-move-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-move-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN move job detail object. All LUN move job detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-move-info[] optional	The list of attributes of LUN move job detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more LUN move job detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-move-modify

[top]

Modifies the maximum throughput of an ongoing move operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.
			Specifies the maximum amount of data, in bytes, that can be transferred

max-throughput		size	per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-move-pause

[top]

Pauses an ongoing LUN move operation. Use the lun-move-resume API to resume the move operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-move-resume

[top]

Resumes a paused LUN move operation.

Input Name	Range	Type	Description
job-uuid		uuid	Specifies the universally unique ID (UUID) of the job that started this move operation.
lun-index		integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct.

Errno	Description
EVSERVERNOTFOUND	
EOD_INVALID_ECV	
EOBJECTNOTFOUND	

lun-move-start

[top]

Starts a LUN move operation to move one or more LUNs from one volume to another within a Vserver. The destination volume can be located on the same node as the source volume or on a different node. NOTE: LUNs created from files cannot be moved.

Input Name	Range	Type	Description
max-throughput	**[0..2^63-1]**	integer optional	Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte.
paths		lun-path-pair[]	Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be moved. All the source LUNs must be on the same volume. All the LUNs must be moved into a single volume.
promote-late		boolean optional	Specifies that the destination needs to be promoted late. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN move operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN move job will not block snapshots of the volume containing the new LUN.
reference-path		string optional	Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being moved will be transferred as a difference from the reference LUN. This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified.

Output Name	Range	Type	Description
job-uuid		uuid	Specifies universally unique ID (UUID) for the LUN move job.

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EOD_INVALID_ECV	
EOD_DEST_LUN_EXISTS	
EOD_DEST_LUNS_NOT_ON_SAME_VOLUME	
EOD_MOVE_DUP_DEST_PATH	
EOD_DEST_IS_FLEXCACHE	
EQTREE_DOES_NOT_EXIST	
EOP_DISALLOWED_VSERVER_ROOT	
EOD_SRC_LUN_NOT_FOUND	
EOD_SRC_LUNS_NOT_ON_SAME_VOLUME	
EOD_SRC_LUN_IS_PE	
EOD_LUN_IN_NVFAILED_STATE	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EOD_LUN_MAX_COUNT_VIOLATION	

EOD_REF_PATH_NOT_IN_SOURCE_PATHS	
E_SAN_MISSING_REQUIRED_LIFS	
E_SAN_NOT_READY	
EOD_MOVE_DEST_IS_SNAPSHOT	
EOD_SRC_IS_DP	
EOD_SRC_IS_SNAPSHOT	
EOD_DEST_IN_CFT_PRECOMMIT	
E_SAN_NOT_READY	

lun-offline

[top]

Disables block-protocol accesses to the LUN. Mappings, if any, configured for the lun are not altered. Note that unless explicitly offlined, a lun is online.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_ENABLED	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EVDISK_ERROR_VOLUME_TRANSITIONING	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-online

[top]

Re-enables block-protocol accesses to the lun.

Input Name	Range	Type	Description
force		boolean optional	Forcibly online the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored.
path		string	Path of the LUN.

Errno	Description

EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVDISK_ERROR_PARTNER_HAS_LUN	
EVDISK_ERROR_PARTNER_NOT_REACHABLE	
EVDISK_ERROR_LUN_HAS_NO_SERIAL_NO	
EVOLUMEBUSY	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EVDISK_ERROR_VOLUME_TRANSITIONING	
EFLI_VERIFY_LUN_ONLINE_FAIL	
EFLI_CREATE_RESYNC_PENDING	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-os-type-list

[top]

Displays the supported values and descriptions for lun-os-type.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[]	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

lun-port-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP for a given initiator name. Initiator name can be FCP portname in case of FCP or iSCSI node name for iSCSI.

Input Name	Range	Type	Description
path		string	Path of the lun. The path should start with '/vol/'.
portname		string	Initiator FCP portname or iSCSI node name.

Output Name	Range	Type	Description
is-reservation-held		boolean	'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise.

Errno	Description
EINVALIDINPUTERROR	

EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-reset-stats

[top]

Resets (zeroes) block-protocol access statistics for LUN(s).

Input Name	Range	Type	Description
path		string optional	Path of the LUN. If path is specified, the stats of that LUN will be reset. If path is not specified, stats of all LUNs are reset.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-resize

[top]

Changes the size of the LUN. Note that client-side operations may be needed to ensure that client software recognizes the changed size. For Data ONTAP Cluster-Mode 8.3 and later, LUN resize is not allowed while the LUN is in import relationship with a Foreign LUN.

Input Name	Range	Type	Description
force		boolean optional	Forcibly reduce the size. This is required for reducing the size of the LUN to avoid accidentally reducing the LUN size.
path		string	Path of the LUN.
size	**[0..2^63-1]**	integer	New size for the LUN.

Output Name	Range	Type	Description
actual-size	**[0..2^63-1]**	integer	Actual new size. This may be different from the specified size due to the requested size not fitting on a cylinder boundary.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_SIZE_TOO_LARGE	
EVDISK_ERROR_RESIZE_TOO_LARGE	

EONTAPI_NOSPC	
EVDISK_ERROR_MUST_SPECIFY_F_FLAG	
EVDISK_ERROR_SIZE_TOO_SMALL	
EVDISK_ERROR_SIZE_UNCHANGED	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EFLI_LUN_BOUND_TO_FLI_ERROR	
EVDISK_ERROR_VOLUME_TRANSITIONING	
EVDISK_SYNC_CAPB_MISMATCH	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-restore-status

[top]

Get state of LUN restore.

Input Name	Range	Type	Description
path		string	Path of the LUN.

Output Name	Range	Type	Description
is-running		boolean	'true' if file restore is currently running for this vdisk, 'false' otherwise.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

lun-set-attribute

[top]

Set a named attribute for a given LUN. Attributes are arbitrary key/value pairs for application-defined use.

Input Name	Range	Type	Description
			Application-defined attribute to set. In order to prevent conflicts between separate applications, it is recommended that applications prefix attribute

name		string	names with their registered Internet domain name reversed component by component, and an application identifier. For example: "com.example.widgetapp.attribute". The following attributes are reserved by the system and may not be set: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to set a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names.
path		string	Path of the LUN.
value		string	Value to set the attribute to. In Data ONTAP Cluster-mode, the combined size of "name" and "value" must not exceed 4092 bytes.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EONTAPI_EPERM	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_ATTR_TOO_BIG	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EONTAPI_EROFS	

Vfiler-enabled
Yes

lun-set-comment

[top]

Set the optional descriptive comment for a LUN.

Input Name	Range	Type	Description
comment		string	Comment to set for given LUN.
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_ENOMEM	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_LUN_IS_QUIESCED	

Vfiler-enabled
Yes

lun-set-device-id

[top]

Set a SCSI peripheral device identifying information value on a LUN. In Data ONTAP 7-Mode, the value set will be returned in response to the vendor unique SCSI command GET DEV ID. In Data ONTAP Cluster-Mode, the value set will be returned in response to the SCSI command REPORT IDENTIFYING INFORMATION for the appropriate INFORMATION TYPE:

- 0000000b - Peripheral Device Identifying Information, a binary string 1 to 64 bytes long. In addition, if the Peripheral Device Identifying Information is between 00000001h (1d) and 0000270Fh (9999d), it will be returned in response to the vendor unique SCSI command GET DEV ID.
- 0000010b - Peripheral Device Text Identifying Information, a UTF-8 string 1 to 255 bytes long.

Either or both peripheral device identifying information values may be set or cleared independently.

Input Name	Range	Type	Description
device-id		string	SCSI Peripheral Device Identifying Information. In Data ONTAP 7-Mode or if device-id-type is "legacy", the value must be an integer in the range [1..9999]. If device-id-type is "binary", the value must be a 2 to 64 byte value encoded as a hexadecimal string, for example "0000270F". If device-id-type is "text", the value is a free-form UTF-8 string between 1 and 255 bytes in length.
device-id-type		string optional	Indicate which peripheral device identifying information value to change. Possible values: • "legacy" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) appropriate for the the vendor unique SCSI command GET DEV ID and in the format compatible with Data ONTAP 7-Mode, • "binary" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). This format allows setting all 64 bytes of the identifying information, • "text" - Set the Peripheral Device Text Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). The default value is "legacy".
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
VDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVDISK_ERROR_INVALID_DEVICE_ID	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
E_SAN_NOT_READY	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled

Yes

lun-set-qos-policy-group

[top]

Input Name	Range	Type	Description
path		lun-path	Path of the LUN
qos-adaptive-policy-group		string optional	QoS Adaptive Policy Group for the LUN. Setting this value to 'none' removes the LUN from an adaptive policy group.
qos-policy-group		string optional	QoS Policy Group for the LUN. Setting this value to 'none' removes the lun from a policy group.

Errno	Description
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_LUN_CREATE_MODIFY	
E_QOS_LUN_PG_REMOVE	

lun-set-select-attribute

[top]

Set the select attribute for the specified LUN. The select attribute is used by multi-pathing software to discriminate between LUNs when mirrored or cloned copies of a vdisk are mapped to the same host.

Input Name	Range	Type	Description
path		string	Path of the LUN.
select-value		string	Sets the select attribute for the lun. Possible values: • "active" - this is an active lun, • "copy" - this is a clone or copy of an active lun, • "mirror" - this is a mirror of an active lun.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-set-serial-number

[top]

Set the serial number for the specified LUN. The lun must first be made offline before changing the serial number. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . The caller must ensure the provided serial number is globally unique and not assigned to any other LUN on this or any other ONTAP cluster.

Input Name	Range	Type	Description
path		string	Path of the LUN.
serial-number		string	Serial number for the LUN. The caller must ensure the serial number is globally unique.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled
Yes

lun-set-share

[top]

Enables file system protocol-based access to a lun. By default, all accesses are disallowed. Note that file permissions and ACL entries still apply.

Input Name	Range	Type	Description
path		string	Path of the LUN.
share-type		string	Possible values: all, none, read, write

Errno	Description
EINVALIDINPUTERROR	
VDISK_ERROR_NO_SUCH_VDISK	
VDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-set-space-alloc

[top]

Modify the attributes of lun object.

Input Name	Range	Type	Description
enable		boolean	LUN space allocation setting
path		lun-path	Path of the LUN

Errno	Description
E_SAN_NOT_READY	

lun-set-space-reservation-info

[top]

Sets the space reservation settings for the named LUN.

Input Name	Range	Type	Description
enable		boolean	Enable or disable space reservation on this LUN.
path		string	Path to the LUN for which the space reservations need to be set.

Errno	Description
EFILENOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ESETSPCRESERROR	
EONTAPI_ENOSPC	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	
EONTAPI_EROFS	

Vfiler-enabled
Yes

lun-snap-usage-list-info

[top]

Lists all LUNs backed by data in the specified snapshot. It also lists the corresponding snapshots in

which these LUNs exist.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot.
volume		string	Name of the volume.

Output Name	Range	Type	Description
lun-snap-usage-luns		lun-snap-usage-lun-info[]	List of LUNs backed by data in the specified snapshot.

Errno	Description
EINVALIDINPUTERROR	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_NO_SUCH_SNAPSHOT	
EVOLUMEBUSY	

Vfiler-enabled
Yes

lun-start

[top]

Starts block-protocol accesses to the lun.

Input Name	Range	Type	Description
path		string	Path of the LUN. The path should start with '/vol/' (for example, "/vol/vol0/lun1").

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_STOPPED	

Vfiler-enabled
Yes

lun-stats-get-iter

[top]

Iterate over a list of lun objects.

Input Name	Range	Type	Description
		lun-	Specify the attributes that should be returned. If not present, all

desired-attributes		stats-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		lun-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		lun-stats-info[] optional	The list of attributes of lun objects.
next-tag		string optional	Tag for the next call. Not present when there are no more lun objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

lun-stats-list-info

[top]

Get block-protocol access statistics (in bytes) for LUN(s).

Input Name	Range	Type	Description
path		string optional	Path of the LUN. If path is specified, only the stats of that LUN is returned. If path is not specified, stats of all LUNs are returned.

Output Name	Range	Type	Description
lun-stats		lun-stats-info[]	List of LUN stats.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EVOLUMEBUSY	

Vfiler-enabled
Yes

[top]

lun-unmap

Reverses the effect of lun-map on the specified LUN for the specified group. For Data ONTAP Cluster-Mode 8.3 and later, if LUN is in import relationship, the last LUN map can not be deleted.

Input Name	Range	Type	Description
initiator-group		string	Initiator group to unmap from.
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EONTAPI_EROFS	
EVDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE	
EVDISK_ERROR_NO_SUCH_EXPORT	
EVDISK_ERROR_NO_SUCH_INITGROUP	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EFLI_LUN_BOUND_TO_FLI_ERROR	
E_SAN_NOT_READY	

Vfiler-enabled
Yes

lun-unset-attribute

[top]

Clear a named attribute for a given LUN.

Input Name	Range	Type	Description
name		string	Name of attribute to unset. The following attributes are reserved by the system and may not be unset: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to unset a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names.
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
EVDISK_ERROR_NO_SUCH_VDISK	
EONTAPI_EPERM	
EVOLUMEBUSY	
EVDISK_ERROR_NO_SUCH_ATTRIBUTE	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
E_SAN_NOT_READY	

EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled
Yes

lun-unset-device-id

[top]

Remove a SCSI peripheral device identifying information value from a LUN.

Input Name	Range	Type	Description
device-id-type		string optional	Indicate which peripheral device identifying information to remove. Possible values: • "binary" - Remove the Peripheral Device Identifying Information returned in response to the SCSI commands REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) and GET DEV ID, • "text" - Remove the Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). The default value is "binary".
path		string	Path of the LUN.

Errno	Description
EINVALIDINPUTERROR	
VDISK_ERROR_NO_SUCH_VDISK	
EVDISK_ERROR_VDISK_NOT_DISABLED	
EVOLUMEBUSY	
EVDISK_ERROR_VOLUME_UNPROCESSED	
EVDISK_ERROR_RESTORE_INACCESSIBLE	
E_SAN_NOT_READY	
EVDISK_ERROR_LUN_IS_QUIESCED	
EVDISK_ERROR_LUN_IS_BUSY	

Vfiler-enabled
Yes

Element definition: **alua-setting-mismatch-initiator-group**

[top]

Information about an initiator group that has an ALUA (Asymmetric Logical Unit Access) setting mismatch on local and partner filers.

Name	Range	Type	Description
initiator-group-name		string	name of the initiator group.
local-alua-is-		boolean	true if ALUA (Asymmetric Logical Unit Access) is enabled for

enabled			initiator-group-name on the local filer.
partner-alua-is-enabled		boolean	true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name

Element definition: **alua-setting-mismatch-initiator-info**

[top]

Information about an initiator that is a member of igroups that have an alua setting mismatch. Also contains partner alua mismatch issues.

Name	Range	Type	Description
alua-is-enabled		boolean	true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name.
initiator-group-name		string	name of the initiator group name that the initiator belongs to.
initiator-name		string	name of the initiator.

Element definition: **clone-status-info**

[top]

Status of a cloning.

Name	Range	Type	Description
blocks-completed		integer	Number of blocks completed.
blocks-total		integer	Total blocks to clone. The percentage complete is (completed * 100) / total
path		string	LUN path being cloned.

Element definition: **conflict-wwpn**

[top]

WWPN that has the conflict.

[none]

Element definition: **conflicting-initiator-info**

[top]

Fibre channel initiator that belongs to igroups on the local filer which have a different OS type than the initiator groups that this initiator belongs to on the partner filer. This conflict can produce unexpected host behavior and must be fixed.

Name	Range	Type	Description
initiator-local-os-type		initiator-group-os-type	OS type of the initiator on the local filer

initiator-name		string	Fibre channel initiator node name that has a different OS type on the local filer than the partner filer.
initiator-partner-os-type		initiator-group-os-type	OS type of the initiator on the partner filer

Element definition: **conflicting-luns-list**

[top]

List of the conflicting LUNs.

Name	Range	Type	Description
conflict-lun-path		string	Path of the lun that has the conflict. The format is: /vol// or /vol///

Element definition: **conflicting-map-info**

[top]

lun mapping conflict.

Name	Range	Type	Description
initiator-name		string	Fibre channel initiator node name that has a lun mapped from both filers in the cluster using the same LUN-id.
lun-id		integer	lun-id used in mappings to the initiator from both filers in the cluster.

Element definition: **fcp-down-hba-info**

[top]

Information about a down FCP HBA

Name	Range	Type	Description
adapter		string	Which FC adapter.
state		string	Description of HBAs state. Possible values: STARTUP UNINITIALIZED INITIALIZING FIRMWARE LINK NOT CONNECTED WAITING FOR LINK UP ONLINE LINK DISCONNECTED RESETTING OFFLINE OFFLINED BY USER/SYSTEM Unknown state

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **initiator-group-info**

[top]

Information about an initiator group.

Name	Range	Type	Description
initiator-group-alua-enabled		boolean	Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group.
initiator-group-delete-on-unmap		boolean optional	Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later.
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
initiator-group-portset-name		string optional	Name of the portset that is bound to the initiator group, if any.
initiator-group-report-scsi-name-enabled		boolean optional	Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later.
initiator-group-throttle-borrow		boolean	Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved.
initiator-group-throttle-reserve		integer	Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage.
initiator-group-type		string	Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed".
initiator-group-use-partner		boolean optional	Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'.
initiator-group-uuid		string optional	This value is Universally-unique identifier (UUID) of this initiator group. The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used. This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs.

			Here is an example of an actual UUID: 35d6ca90-c759-11df-8b6d-00a098132c6c
initiator-group-vsa-enabled		boolean	Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled.
initiators		initiator-info[] optional	List of initiators belonging to this group.
lun-id	**[0..4095]**	integer optional	LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api.
vserver		string optional	Name of the vserver hosting this initiator group

Element definition: **invalid-cfmode-setting-info**

[top]

local and partner cfmode settings

Name	Range	Type	Description
local-fcp-cfmode		string	cfmode setting of the local filer Possible values: dual_fabric, mixed, partner, standby, single_image
partner-fcp-cfmode		string	cfmode setting of the partner filer Possible values: dual_fabric, mixed, partner, standby, single_image

Element definition: **invalid-nodename-setting-info**

[top]

Information about different FCP node names

Name	Range	Type	Description
local-fcp-node-name		string	FCP node name for the local filer
partner-fcp-node-name		string	FCP node name for the partner filer

Element definition: **invalid-ostype-cfmode-setting-info**

[top]

Information about an invalid initiator group OS type and cfmode combination

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group

Element definition: **invalid-use-partner-cfmode-setting-info**

[top]

Information about an invalid initiator group use_partner and cfmode

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
is-use-partner-enabled		boolean	If true this initiator group's members are allowed to use the partner port.

Element definition: **invalid-use-partner-ostype-setting-info**

[top]

Information about an invalid initiator group OS type and use_partner combination

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
is-use-partner-enabled		boolean	If true this initiator group's members are allowed to use the partner port.

Element definition: **invalid-vsa-setting-info**

[top]

Information about an initiator group with an invalid Volume Set Addressing (VSA) setting for its OS type. Only 'hpux' initiator groups should have VSA enabled. All other initiator groups should have it disabled. Incorrect settings can cause hosts to not be able to access some or all of their LUNs.

Name	Range	Type	Description
initiator-group-name		string	Name of this initiator group.
initiator-group-os-type		initiator-group-os-type	OS type of the initiator group
is-vsa-enabled		boolean	If true, members of this initiator group will use VSA on the filer.

Element definition: **lun-align-info**

[top]

LUN alignment Info of a LUN When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alignment		alignment-state optional	Alignment of the LUN. Possible values: aligned, misaligned, partial-writes, indeterminate. Attributes: non-creatable, non-modifiable Possible values: • "aligned" - All or most of the IO to the LUN is aligned to the underlying file, • "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file, • "partial_writes" - A significant amount of IO to the LUN is partial, • "indeterminate" - There is not enough IO to determine the LUN's alignment state
multiprotocol-type		lun-os-type optional	The ostype for the LUN. Caller should specify a non-default ostype Attributes: non-creatable, non-modifiable Possible values: • "vmware" - The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs)., • "hyper_v" - The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks)., • "windows_2008" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later., • "windows_gpt" - The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT)., • "windows" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table., • "linux" - The LUN will be used to store a Linux filesystem with no partition table., • "xen" - The LUN will be used to provide storage for XenServer., • "solaris" - The LUN will be used to store a Solaris filesystem in a single slice partition., • "solaris_efi" - The LUN will be used to store a Solaris filesystem with an EFI partition table., • "hpux" - The LUN will be used to store an HP-UX filesystem., • "aix" - The LUN will be used to store an AIX filesystem., • "netware" - The LUN will be used to store a Netware filesystem., • "openvms" - The LUN will be used to store an OpenVMS filesystem., • "image" - The default type indicating no assumptions will be made about the data stored in the LUN.
partition-count	**[0..2^32-1]**	integer optional	Number of partitions on the LUN. Attributes: non-creatable, non-modifiable
partition-		partition-scheme	Partition scheme on the LUN. Possible values: mbr and gpt Attributes: non-creatable, non-modifiable Possible values: • "mbr" - Master Boot Record Partition Table Scheme, • "gpt" - GUID Partition Table Scheme,

scheme		optional	• "unknown" - Unrecognized partition scheme or an unformatted LUN, • "sun_vtoc" - Sun VTOC Partition Table Scheme, • "aix" - IBM AIX Disk Label
partition-table		partition-list-entry[] optional	Partition entries on the LUN.
path		lun-path optional	Path of the LUN Attributes: key, non-creatable, non-modifiable
read-alignment-histogram		read-histogram-entry[] optional	Histogram of read operations of size 4k in percentage value.
read-partial-blocks	**[0..2^32-1]**	integer optional	Total number of read operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver hosting the LUN Attributes: key, non-creatable, non-modifiable
write-alignment-histogram		write-histogram-entry[] optional	Histogram of write operations of size 4k in percentage value.
write-partial-blocks	**[0..2^32-1]**	integer optional	Total number of write operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable

Element definition: **lun-attribute-info**

[top]

LUN attribute name / value pair

Name	Range	Type	Description
name		string	Name of the attribute.
value		string	Value of the attribute.

Element definition: **lun-clone-lists-info**

[top]

Details of the LUN clone in the specified snapshot.

Name	Range	Type	Description
path		string	Path of the LUN clone.

Element definition: **lun-copy-info**

[top]

Information about a LUN copy job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cutover-time		time-interval optional	Specifies time, in seconds, between the start of\" the LUN copy job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable
destination-path		lun-path optional	Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the Vserver that will host the new LUN. Attributes: non-creatable, non-modifiable
elapsed-time		time-interval optional	Specifies elapsed time, in seconds, since the start of the LUN copy job. Attributes: non-creatable, non-modifiable
is-destination-ready		boolean optional	Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable
is-promoted-early		boolean optional	Specifies if the destination LUN has been promoted early. Attributes: non-creatable, non-modifiable
is-snapshot-fenced		boolean optional	Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable
job-status		sfod-scanner-status optional	Specifies the current status of the LUN copy transfer. Attributes: non-creatable, non-modifiable Possible values: • "preparing" - Preparing, • "allocation_map" - Allocating, • "data" - Moving Data, • "destroying" - Destroying, • "paused_manual" - Manually Paused, • "paused_error" - Paused by Error, • "complete" - Complete, • "destroyed" - Destroyed, • "terminated_manual" - Manually Terminated
job-uuid		uuid optional	Specifies the universal unique ID (UUID) of the job that started this copy operation. Attributes: key, non-creatable, non-modifiable
last-failure-reason		string optional	Specifies the most recent error message from the LUN copy job. Attributes: non-creatable, non-modifiable
lun-index	**[0..2^32-1]**	integer optional	Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable
max-throughput		size optional	Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable
progress-percent	**[0..100]**	integer optional	Specifies the amount of data, as a percentage of total data, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable
scanner-progress		size optional	Specifies the amount of data, in bytes, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable

scanner-total		size optional	Specifies the total amount of data, in bytes, that will be copied over to the new LUN. Attributes: non-creatable, non-modifiable
source-path		lun-path optional	Specifies the full path to the LUN to be copied, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable
source-snapshot-instance-uuid		string optional	Specifies the universal unique ID (UUID) of the physical data layout of the source Snapshot volume. This value corresponds to snapshot-instance-uuid element of the snapshot-info structure. If the value is not specified it indicates that the LUN is not being copied from a Snapshot volume. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the Vserver hosting the LUN to be copied. Attributes: non-creatable, non-modifiable

Element definition: **lun-import-info**

[top]

Information of a Foreign LUN Import relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-status		fli-admin-state-enum optional	Administrative status of the import operation Attributes: non-creatable, non-modifiable Possible values: • "stopped" , • "started" , • "paused"
compared-blocks	**[0..2^64-1]**	integer optional	Number of compared blocks. This element will be returned only when import verification is in progress. Attributes: non-creatable, non-modifiable
current-throughput		size optional	Current Throughput (per sec) Attributes: non-creatable, non-modifiable
estimated-remaining-duration		timeticks optional	Estimated Remaining Duration Attributes: non-creatable, non-modifiable
failure-reason		string optional	Failure Reason Attributes: non-creatable, non-modifiable
foreign-disk		string optional	Foreign Disk Serial Number Attributes: key, required-for-create, non-modifiable
import-current-node		string optional	Import Current Node. The current node where import is running and where foreign disk I/Os are serviced. During takeover or giveback the import-current-node can change. Attributes: non-creatable, non-modifiable
import-home-node		string optional	Import Home Node Attributes: non-creatable, non-modifiable
imported-blocks	**[0..2^64-1]**	integer optional	Blocks Imported Attributes: non-creatable, non-modifiable

max-throughput-limit		size optional	Maximum Throughput Limit (per sec) Attributes: non-creatable, non-modifiable
operation-in-progress		fli-operation-enum optional	Current operation in progress Attributes: non-creatable, non-modifiable Possible values: • "import" , • "verify"
operational-status		fli-operational-state-enum optional	Operational status of the import operation Attributes: non-creatable, non-modifiable Possible values: • "in_progress" , • "failed" , • "completed" , • "stopped" , • "paused"
path		lun-path optional	Path of the LUN Attributes: required-for-create, non-modifiable
percent-complete	**[0..2^32-1]**	integer optional	Percent Complete Attributes: non-creatable, non-modifiable
qos-policy-group		string optional	QoS Policy Group Attributes: non-creatable, non-modifiable
total-blocks	**[0..2^64-1]**	integer optional	Total Blocks Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver containing the LUN Attributes: key, non-creatable, non-modifiable

Element definition: **lun-info**

[top]

Information of a LUN.

Name	Range	Type	Description
alignment		string optional	Alignment of the LUN. Possible values: "aligned", "misaligned", "partial_writes" or "indeterminate".
application		string optional	The name of the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application.
application-uuid		string optional	The unique identifier for the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application.
backing-snapshot		string optional	Path to the backing snapshot file for a LUN, if there is one. Only returned if it has one. Note: This element is not returned for LUNs which are in snapshots.
block-size	**[0..2^31-1]**	integer optional	Disk block size of the LUN in bytes. This field is unavailable while the LUN is fenced for a restore operation.
class		string optional	The class of the LUN. Possible values: • "regular" - The LUN is intended for normal blocks access, • "protocol_endpoint" - The LUN is a VMware vvol protocol endpoint, • "vvol" - The LUN is a VMware vvol data LUN.

clone-backing-snapshot		string optional	
comment		string optional	User-specified comment for the LUN. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation.
creation-timestamp	**[0..2^31-1]**	integer optional	The time this LUN was created, in seconds since January 1, 1970. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation.
device-binary-id		string optional	SCSI Peripheral Device Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). Value is encoded as a hexadecimal string, representing 1 to 64 bytes. Only present if a Peripheral Device Identifying Information value has been set on the LUN.
device-id	**[1..9999]**	integer optional	SCSI Peripheral Device Identifying Information returned in response to the vendor unique SCSI command GET DEV ID. Only present if a Peripheral Device Identifying Information value appropriate for GET DEV ID has been set on the LUN.
device-text-id		string optional	SCSI Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). Value is a free-form UTF-8 string between 1 and 255 bytes in length. Only present if a Peripheral Device Text Identifying Information value has been set on the LUN.
is-clone		boolean optional	"true" if the lun is a clone "false" otherwise.
is-clone-autodelete-enabled		boolean optional	"true" if the lun clone is allowed to be deleted by autodelete in try/disrupt mode. autodelete will be allowed to delete the lun clone in try/disrupt mode if configured. "false" otherwise. The lun clone will not be deleted by autodelete in try/disrupt mode if configured.
is-inconsistent-import		boolean optional	"true" if the lun contains a partial import of a foreign disk, "false" otherwise.
is-restore-inaccessible		boolean optional	If true, the LUN is fenced for I/O and management operations due to an ongoing restore operation. If false, the LUN is available for normal operations.
is-space-alloc-enabled		boolean optional	Whether or not the LUN has space allocation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation. The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard.
is-space-reservation-enabled		boolean optional	Whether or not the LUN has space reservation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation
mapped		boolean optional	Whether or not the LUN is mapped to any initiators. "true" if mapped, "false" otherwise. This field is not applicable to LUNs where the class attribute is set to 'vvol'.
multiprotocol-type		lun-os-type optional	OS type of the LUN This field is unavailable while the LUN is fenced for a restore operation.
node		node-name optional	Node hosting the LUN. This field is available in Data ONTAP 8.3 and later.
online		boolean	"true" if the LUN is online, "false" if the LUN is offline. In Data ONTAP 8.3 and later, the 'state' field may be used to distinguish between specific access states.

path		string	Path of the LUN.
prefix-size	**[0..2^63-1]**	integer optional	Size of the prefix stream for this LUN in bytes. This is either the default value for the OS type of the LUN or value specified in lun-create-by-size API. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later.
qos-adaptive-policy-group		string optional	QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later.
qos-policy-group		string optional	QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. This field is only present if the LUN is assigned to a QoS policy This field is available in Data ONTAP 8.2 and later.
qtree		string	Name of the qtree containing the LUN.
read-only		boolean optional	"true" if the LUN is read only, "false" if read/write. This field is unavailable while the LUN is fenced for a restore operation.
serial-7-mode		string optional	The serial number of the LUN used by Data ONTAP 7-Mode prior to transitioning the LUN. This field is available in Data ONTAP 8.3 and later.
serial-number		string optional	Serial number of the LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . This field is unavailable when the LUN is in a snapshot.
share-state		string	Share state of the LUN. Possible values: "all", "none", read", "unknown", "write". In the very rare case that the share state can not be determined, "unknown" is returned.
size	**[0..2^63-1]**	integer optional	Size of this LUN in bytes in the active FS. This field is unavailable while the LUN is fenced for a restore operation.
size-used	**[0..2^63-1]**	integer optional	Number of bytes used by this LUN. This field is unavailable while the LUN is fenced for a restore operation.
staging		boolean	"true" if the LUN is a temporary staging LUN, "false" otherwise.
state		string optional	The access state of the LUN. Possible values: • "online" - LUN is online, • "offline" - LUN is administratively offline or a more detailed offline reason is not available, • "foreign_lun_error" - LUN has been automatically taken offline due to a media error on the associated foreign LUN, • "nvfail" - LUN has been automatically taken offline due to an NVRAM failure, • "space_error" - LUN has been automatically taken offline due to insufficient space. This field is available in Data ONTAP 8.3 and later.
suffix-size	**[0..2^63-1]**	integer optional	Size of the suffix stream for this LUN in bytes. This value is determined by the OS type of the LUN at creation time. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later.
uuid		string optional	Universal unique identifier (UUID) for the LUN. This field is unavailable when the LUN is in a snapshot.
volume		string	Name of the volume containing the LUN.
vserver		string optional	Vserver containing the LUN.

Element definition: **lun-map-info**

[top]

Information about a lun mapping

Name	Range	Type	Description
initiator-group		string	Initiator group used to map the lun to the requested initiator.
initiator-group-uuid		string	The Universally-unique identifier (UUID) of the initiator group.
lun-id	**[0..4095]**	integer	Logical Unit Number which the lun is mapped to for the requested initiator.
lun-uuid		string	The Universally-unique identifier (UUID) of the LUN.
node		node-name	The owning node of the LUN.
path		string	Path of the LUN which is mapped to the requested initiator.
reporting-nodes		node-name[] optional	The list of nodes reporting the LUN map to SCSI initiators. If not provided, the map is reported on all applicable LIFs on all nodes.
vserver		string optional	Vserver containing the initiator group

Element definition: **lun-move-info**

[top]

LUN Move Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cutover-time		time-interval optional	Specifies time, in seconds, between the start of\" the LUN move job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable
destination-path		lun-path optional	Specifies the full path to the new LUN, of the form /vol//[]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable
elapsed-time		time-interval optional	Specifies elapsed time, in seconds, since the start of the LUN move job. Attributes: non-creatable, non-modifiable
is-destination-ready		boolean optional	Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable
is-promoted-		boolean	Specifies if the destination LUN has been promoted late. Attributes:

late		optional	non-creatable, non-modifiable
is-snapshot-fenced		boolean optional	Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable
job-status		sfod-scanner-status optional	Specifies the current status of the LUN move job. Attributes: non-creatable, non-modifiable Possible values: • "preparing" - Preparing, • "allocation_map" - Allocating, • "data" - Moving Data, • "destroying" - Destroying, • "paused_manual" - Manually Paused, • "paused_error" - Paused by Error, • "complete" - Complete, • "destroyed" - Destroyed, • "terminated_manual" - Manually Terminated
job-uuid		uuid optional	Specifies the universal unique ID (UUID) of the job that started this move operation. Attributes: key, non-creatable, non-modifiable
last-failure-reason		string optional	Specifies the most recent error message from the LUN move job. Attributes: non-creatable, non-modifiable
lun-index	**[0..2^32-1]**	integer optional	Specifies ann additional unique element identifying one LUN among many that could be possibly move as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable
max-throughput		size optional	Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable
progress-percent	**[0..100]**	integer optional	Specifies the amount of data, as a percentage of total data, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable
scanner-progress		size optional	Specifies the amount of data, in bytes, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable
scanner-total		size optional	Specifies the total amount of data, in bytes, that will be moved over to the new LUN. Attributes: non-creatable, non-modifiable
source-path		lun-path optional	Specifies the full path to the LUN to be moved, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the name of the Vserver containing the source and destination volumes. Attributes: non-creatable, non-modifiable

Element definition: **lun-os-type**

[top]

The image type of the lun. This value determines the proper alignment settings for the desired host filesystem layout. Possible values:

- "aix" The LUN will be used to store an AIX filesystem,
- "hpux" The LUN will be used to store an HP-UX filesystem,
- "hyper_v" The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks),
- "image" The default type indicating no assumptions will be made about the data stored in the LUN,
- "linux" The LUN will be used to store a Linux filesystem with no partition table,
- "netware" The LUN will be used to store a Netware filesystem,
- "openvms" The LUN will be used to store an OpenVMS filesystem,

- "solaris" The LUN will be used to store a Solaris filesystem in a single slice partition,
- "solaris_efi" The LUN will be used to store a Solaris filesystem with an EFI partition table,
- "vmware" The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs),
- "windows" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table.
- "windows_2008" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later,
- "windows_gpt" The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT),
- "xen" The LUN will be used to provide storage for XenServer.

[none]

Element definition: **lun-path**

[top]

LUN Path

[none]

Element definition: **lun-path-pair**

[top]

A pair of source and destination LUN paths

Name	Range	Type	Description
destination-path		string	Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun.
source-path		string	Specifies the full path to the source LUN, of the form /vol/[/]/. Example: /vol/src_vol/src_lun.

Element definition: **lun-snap-usage-lun-info**

[top]

Details of the LUN backed by specified snapshot.

Name	Range	Type	Description
backing-store		string	Path of the LUN serving as the backing store.
path		string	Path of the LUN.
snapshot		string	Name of the snapshot in which the LUN exists.

Element definition: **lun-stats-info**

[top]

Stats for a LUN.

Name	Range	Type	Description
block-size		integer optional	Disk block size for this LUN in bytes. This attribute is unavailable when the LUN is fenced for a restore operation.
last-zeroed	**[0..2^64-1]**	integer optional	Total number of seconds since the statistics for this lun were last zeroed.
other-ops	**[0..2^64-1]**	integer	Total number of other SCSI ops executed.
path		string	path of the LUN. (for example, "/vol/vol0/lun1")
read-blocks	**[0..2^64-1]**	integer optional	Number of disk blocks read. This attribute is unavailable when the LUN is fenced for a restore operation.
read-ops	**[0..2^64-1]**	integer	Total number of SCSI read ops executed.
scsi-errors	**[0..2^64-1]**	integer	Total number of SCSI errors.
vserver		string optional	Vserver containing the lun
write-blocks	**[0..2^64-1]**	integer optional	Number of disk blocks written. This attribute is unavailable when the LUN is fenced for a restore operation.
write-ops	**[0..2^64-1]**	integer	Total number of SCSI write ops executed.

Element definition: **mixed-ostype-initiator-info**

[top]

Information about an initiator which is a member of initiator groups of differing OS types. An initiator can only be a member of initiator groups which have the same OS type across all the initiator groups it is a member of.

Name	Range	Type	Description
initiator-group-name-1		string	Name of this initiator group.
initiator-group-name-2		string	Name of this initiator group.
initiator-group-os-type-1		initiator-group-os-type	OS type of the initiator group
initiator-group-os-type-2		initiator-group-os-type	OS type of the initiator group
initiator-name		string	Name of the initiator.

Element definition: **mixed-vsa-initiator-info**

[top]

Information about an initiator which is a member of initiator groups with differing Volume Set Addressing (VSA) settings. This will cause unexpected problems with the initiator.

Name	Range	Type	Description
initiator-group-name-1		string	Name of the first initiator group that the initiator is a member of.
initiator-group-name-2		string	Name of the second initiator group that the initiator is a member of.
initiator-name		string	Name of the initiator.
is-vsa-enabled-1		boolean	If true, members of the first initiator group, identified by initiator-group-name-1, will use VSA on the filer.

is-vsa-enabled-2		boolean	If true, members of the second initiator group, identified by initiator-group-name-2, will use VSA on the filer.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **persistent-reservation-info**

[top]

Information about the persistent reservation

Name	Range	Type	Description
fcp-pr-nexus		fcp-pr-nexus optional	This is the I_T_Nexus info for an FCP type reservation.
iscsi-pr-nexus		iscsi-pr-nexus optional	This is the I_T_Nexus info for an iSCSI type reservation.
reservation-key		string optional	Value of persistent reservation key that is registered for the given lun.
reservation-type		string	Type of persistent reservation. Possible values: "fcp", "iscsi".
reservation-type-code		string optional	Type of persistent reservation held by the I_T_Nexus, if any. Please refer to the SCSI Primary Command (SPC) specification for full details on reservation types. Possible values: • "read shared", • "write exclusive", • "exclusive access", • "write exclusive registrants only", • "exclusive access registrants only", • "write exclusive all registrants", • "exclusive access all registrants".
scsi-revision		string	The SCSI specification revision for the reservation. Possible values: "scsi2", "scsi3".

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-error**

[top]

The error code of a given volume.

Name	Range	Type	Description
errno		integer optional	The error code of the snapshot operation for a given volume. It is returned only when an error is found.
name		volume-name	Name of a volume.
reason		string optional	Description of the error. It is returned only when an error is found.
vserver		string optional	Virtual server containing the volume.

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **alignment-state** [top]

aligned|misaligned|partial-writes|indeterminate Possible values:

- "aligned" - All or most of the IO to the LUN is aligned to the underlying file,
- "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file,
- "partial_writes" - A significant amount of IO to the LUN is partial,
- "indeterminate" - There is not enough IO to determine the LUN's alignment state

[none]

Element definition: **fcp-pr-nexus** [top]

Information about FCP nexus owning the persistent reservation These two components identify the relationship between the FCP initiator and the target.

Name	Range	Type	Description
initiator-port		string	FCP initiator port part of I_T_Nexus owning the persistent reservation key.
target-port		string optional	FCP target port part of I_T_Nexus owning the persistent reservation key.
third-party-initiator-port		string optional	The FCP port name (WWPN) of the third-party initiator the reservation is being held for. For use in SCSI-2 only.

Element definition: **fli-admin-state-enum** [top]

stopped|started|paused Possible values:

- "stopped" ,
- "started" ,
- "paused"

[none]

Element definition: **fli-operation-enum** [top]

import|verify Possible values:

- "import" ,

- "verify"

[none]

Element definition: **fli-operational-state-enum**

[top]

in_progress|failed|completed|stopped|paused Possible values:

- "in_progress" ,
- "failed" ,
- "completed" ,
- "stopped" ,
- "paused"

[none]

Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

Element definition: **initiator-info**

[top]

Information about one initiator.

Name	Range	Type	Description
initiator-name		string	Name of the initiator.

Element definition: **iscsi-pr-nexus**

[top]

Information about iSCSI nexus owning the persistent reservation These three components identify the relationship between the iSCSI initiator and the target.

Name	Range	Type	Description
initiator		string	Name of initiator holding the reservation i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346.
isid		string	The Initiator Session ID for the persistent reservation owner. The ISID is a numeric Initiator Session ID assigned by the initiator which acts as part of the initiators identity.
third-party-initiator-name		string optional	The name of the third-party initiator the reservation is being held for. For use in SCSI-2 only. i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346.
tpgroup-tag	**[0..2^16-1]**	integer optional	The target portal group tag of the persistent reservation owner.
tpgtag		string optional	The target portal group tag of the persistent reservation owner. For historical reasons, the value is represented as a 4-byte hexadecimal number in little-endian byte order.

Element definition: **partition-list-entry**

[top]

Partition entries on the LUN.

Name	Range	Type	Description
partition-offset	**[0..2^64-1]**	integer optional	Partition start offset. Attributes: non-creatable, non-modifiable
partition-type		string optional	Type of the partition in the partition table. Attributes: non-creatable, non-modifiable

Element definition: **partition-scheme**

[top]

aix|gpt|mbr|sun-vtoc|unknown Possible values:

- "mbr" - Master Boot Record Partition Table Scheme,
- "gpt" - GUID Partition Table Scheme,
- "unknown" - Unrecognized partition scheme or an unformatted LUN,
- "sun_vtoc" - Sun VTOC Partition Table Scheme,
- "aix" - IBM AIX Disk Label

[none]

Element definition: **read-histogram-entry**

[top]

Histogram of read operations of size 4k in percentage value.

Name	Range	Type	Description
bin-number	**[0..2^32-1]**	integer optional	Histogram bin number Attributes: non-creatable, non-modifiable
bin-value	**[0..2^32-1]**	integer optional	Read histogram bin percentage value. Attributes: non-creatable, non-modifiable

Element definition: **sfod-scanner-status**

[top]

Preparing|Allocation-Map|Data|Destroying|Paused-Manual|Paused-Error|Complete|Destroyed|Terminated-Manual Possible values:

- "preparing" - Preparing,
- "allocation_map" - Allocating,
- "data" - Moving Data,
- "destroying" - Destroying,
- "paused_manual" - Manually Paused,
- "paused_error" - Paused by Error,
- "complete" - Complete,
- "destroyed" - Destroyed,
- "terminated_manual" - Manually Terminated

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **write-histogram-entry**

[top]

Histogram of write operations of size 4k in percentage value.

Name	Range	Type	Description
bin-number	**[0..2^32-1]**	integer optional	Histogram bin number Attributes: non-creatable, non-modifiable
bin-value	**[0..2^32-1]**	integer optional	Write histogram bin percentage value. Attributes: non-creatable, non-modifiable

APIs in Category: **metrocluster**

metrocluster-check-aggregate-eligibility-get
metrocluster-check-aggregate-eligibility-get-iter
metrocluster-check-aggregate-get-iter
metrocluster-check-capture-status-get
metrocluster-check-cluster-get-iter
metrocluster-check-config-replication-get
metrocluster-check-get-iter
metrocluster-check-lif-repair-placement
metrocluster-check-lif-update-vserver-name
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metrocluster-check-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

Input Name	Range	Type	Description
aggregate		aggr-name	The aggregate being evaluated for config-replication volume hosting eligibility.
desired-attributes		metrocluster-check-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-check-aggregate-eligibility-info	The attributes of the metrocluster-check-aggregate-eligibility.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-aggregate-eligibility-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-aggregate-eligibility object. All metrocluster-check-aggregate-eligibility objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-aggregate-eligibility-info[] optional	The list of attributes of metrocluster-check-aggregate-eligibility objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-check-aggregate-eligibility objects to return.
num-records	**[0..2^32-**	integer	The number of records returned in this call.

	1]		

Errno	Description
EINTERNALERROR	

metrocluster-check-aggregate-get-iter

[top]

Iterate over a list of metrocluster-check-aggregate-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-aggregate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-aggregate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-aggregate-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-capture-status-get

[top]

This API returns information regarding the capture status of replicated metrocluster configuration data.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-capture-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		status-info optional	available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-check-capture-status-info	The attributes of the metrocluster-check-capture-status.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-cluster-get-iter

[top]

Iterate over a list of metrocluster-check-cluster-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-cluster-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-cluster-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-cluster-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-config-replication-get

[top]

Obtain the results of the MetroCluster config replication checks.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-config-replication-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-check-config-replication-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-get-iter

[top]

Iterate over a list of metrocluster-check-info objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-lif-repair-placement

[top]

The MetroCluster-check-lif-repair-placement API verifies LIF placement in the destination cluster for the sync-source Vserver LIF in a MetroCluster setup.

Input Name	Range	Type	Description
lif		string optional	sync-source Vserver LIF
vserver		string	sync-source Vserver in the MetroCluster configuration

Errno	Description
EMCC_LIF_REPAIR_STREAM_ERROR	
EMCC_CHECK_SUGGEST_VSERVER_ON_REMOTE_CLUSTER	

metrocluster-check-lif-update-vserver-name

[top]

The MetroCluster-check-lif-update-vserver-name API updates the Vserver name for failed LIF placement entries for Vserver LIFs after the Vserver has been renamed in a MetroCluster setup.

Input Name	Range	Type	Description
all		boolean optional	all Vservers that have been renamed
vserver-uuid		string optional	Vserver UUID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-check-node-get-iter

[top]

Iterate over a list of metrocluster-check-node-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-node-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-check-run

[top]

The metrocluster-check-run API starts a check on the metrocluster configuration. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
skip-dr-simulation		boolean optional	If this is set to true, switchover and switchback simulations are skipped.
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Check Job Id
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CLEAR_CHECK_RESULTS_FAIL	
EMCC_CLUSTER_PEER_UNAVAILABLE	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_PEER_CHECK_FAIL	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-check-volume-get-iter

[top]

Iterate over a list of metrocluster-check-volume objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-volume-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-volume-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-volume-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two clusters in DR relationship for MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source cluster to destination cluster. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-cluster-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-cluster-uuid		uuid	External UUID of destination cluster
instance	[0..2^32-	integer	The count of object instance

	1]		
keys		key-value-pair[]	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1
object		string	The Cluster-Domain configuration object being compared - for example, aggrView
source-cluster-uuid		uuid	External UUID of source cluster

Output Name	Range	Type	Description
attributes		config-cluster-diff-info	The attributes of the metrocluster.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

metrocluster-config-diff-get-iter

[top]

Provides the differences in configuration between two clusters in DR relationship for MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-cluster-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		config-cluster-diff-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		config-cluster-diff-info[] optional	The list of attributes of metrocluster objects.
next-tag		string	Tag for the next call. Not present when there are no more

		optional	metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

metrocluster-config-replication-cluster-storage-configuration-get

[top]

The metrocluster-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

Input Name	Range	Type	Description
desired-attributes		metrocluster-cr-storage-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-cr-storage-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-config-replication-cluster-storage-configuration-modify

[top]

The metrocluster-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

Input Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-config-replication-resync-status-get

[top]

Get MetroCluster configuration replication synchronization information

Input Name	Range	Type	Description
desired-attributes		metrocluster-config-replication-resync-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-config-replication-resync-status-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-configure

[top]

The metrocluster-configure API configures a node and its DR partner to mirror NVRAM and be configured to participate in a DR switchover. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
node-name		string optional	Name of the node
refresh		boolean optional	This optional parameter, if set to true, causes the node to refresh the configuration of its partners and to discard the previous configuration. This is defaulted to false
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
result-error-code	[0..2^32-1]	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.

result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_NODE_NOT_IN_CLUSTER	

metrocluster-create-periodic-job

[top]

The create-periodic-job API creates the periodic check job.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-delete-periodic-job

[top]

The delete-periodic-job API deletes the periodic check job.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-disable-periodic-check

[top]

The metrocluster-disable-periodic-check API disables periodic check on the metrocluster configuration.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-enable-periodic-check

[top]

The enable-periodic-check API enables periodic check on the metrocluster configuration.

Errno	Description
EMCC_CHECK_INTERNAL_ERROR_WITH_REASON	
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_UNASSIGN_INTERNAL_ERROR	

metrocluster-get

[top]

Get MetroCluster configuration information

Input Name	Range	Type	Description
desired-attributes		metrocluster-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		metrocluster-info	The attributes of the metrocluster.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-heal

[top]

The metrocluster-heal API heals aggregates and partner roots in preparation for a DR switchback. Healing of aggregates and partner roots is done in two phases by the admin. DR partner nodes must be powered off and remote disk shelves must be powered on before calling this API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
healing-phase		string	Specifies the healing phase. The first phase heals aggregates by resyncing mirrored plexes and replaying the nvlogs of non-mirrored aggregates. The second phase heals the root aggregates of partner nodes. Possible values: • "aggregates" , • "root_aggregates"
start-on-node-and-skip-node-		string	Specify which Node Job Starts On and Skip Node Version Checks

version-checks		optional	

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_HEAL_AGGRS_BYPASS_INVALID_DRC_STATE	
EMCC_HEAL_AGGRS_INVALID_DRC_STATE	
EMCC_HEAL_ROOTS_INVALID_DRC_STATE	

metrocluster-interconnect-adapter-get-iter

[top]

Iterate over a list of metrocluster-interconnect-adapter objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-adapter optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-adapter optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect adapter object. All metrocluster interconnect adapter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-adapter[] optional	The list of attributes of metrocluster interconnect adapter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect adapter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-ipfo-get-iter

[top]

Iterate over a list of metrocluster-interconnect-ipfo objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-ipfo optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-ipfo optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect ipfo object. All metrocluster interconnect ipfo objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-ipfo[] optional	The list of attributes of metrocluster interconnect ipfo objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect ipfo objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-mirror-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-mirror	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-mirror optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror object. All metrocluster interconnect mirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-mirror[] optional	The list of attributes of metrocluster interconnect mirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect mirror objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-mirror-multipath-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror-multipath objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-mirror-multipath optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-mirror-multipath optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror multipath object. All metrocluster interconnect mirror multipath objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		metrocluster-	

attributes-list		interconnect-mirror-multipath[] optional	The list of attributes of metrocluster interconnect mirror multipath objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster interconnect mirror multipath objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

metrocluster-interconnect-remotecluster-get-iter

[top]

Get MetroCluster Interconnect Remote Cluster Reachable

Input Name	Range	Type	Description
desired-attributes		metrocluster-interconnect-remotecluster-reachable optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interconnect-remotecluster-reachable optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interconnect-remotecluster-reachable[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-is-configured

[top]

The metrocluster-is-configured API returns a value indicating if the cluster is configured for MetroCluster.

Output Name	Range	Type	Description
is-mcc-config		boolean	Is MetroCluster Configured

Errno	Description
EOK	
EMCC_UNABLE_TO_DETERMINE_METROCLUSTER_CONFIGURATION	

metrocluster-node-get-iter

[top]

Iterate over a list of metrocluster-node-info objects belonging to MetroCluster nodes

Input Name	Range	Type	Description
desired-attributes		metrocluster-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-node-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-operation-get-iter

[top]

Iterate over a list of MetroCluster operations and their details

Input Name	Range	Type	Description
desired-attributes		metrocluster-operation-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-operation-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-operation-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-operation-statistics-get-iter

[top]

Iterate over a list of Metrocluster operation statistics.

Input Name	Range	Type	Description
desired-attributes		metrocluster-operation-statistics-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-operation-statistics-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		metrocluster-operation-	

list		statistics-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-progress-table-get-iter

[top]

Iterate over a list of metrocluster-progress-table-info objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-progress-table-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-progress-table-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-progress-table-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-show-lif-placement-failures-get-iter

[top]

Iterate over a list of LIF placement failures in a MetroCluster setup.

Input Name	Range	Type	Description

desired-attributes		metrocluster-show-lif-placement-failures optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-show-lif-placement-failures optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-show-lif-placement-failures[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-switchback

[top]

The metrocluster-switchback API initiates the switchback of storage and client access from nodes in the DR site to their home nodes. The home nodes and storage shelves must be powered on and reachable by nodes in the DR site. The metrocluster heal-aggregates and metrocluster heal-roots APIs must have successfully completed before running the metrocluster-switchback API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
override-cluster-stream-resync-errors		boolean optional	If this optional parameter is set to true, the system overrides errors during the cluster stream resync phase that might prevent the switchback operation. This is defaulted to false
override-vetoes		boolean optional	If this optional parameter is set to true, the system overrides subsystem vetoes that might prevent the switchback operation. This is defaulted to false
override-vserver-stream-resync-errors		boolean optional	If this optional parameter is set to true, the system overrides errors during the vserver stream resync phase that might prevent the switchback operation. This is defaulted to false
simulate		boolean	If this optional parameter is set to true, the system runs a simulation of the switchback operation to make sure all the

		optional	prerequisites for the operation are met. This is defaulted to false.
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Switchback Job Id
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_HA_CONFIGURE_NOT_DONE	
EMCC_INTERNAL_ERROR	
EMCC_INTERNAL_ERROR_WITH_REASON	
EMCC_INVALID_RELATIONSHIP_TYPE	
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_NODE_NOT_IN_CLUSTER	
EMCC_UNASSIGN_INTERNAL_ERROR	
EMCC_SB_INVALID_DRC_STATE	
EMCC_SB_NODE_NOT_CONFIGURED	
EMCC_SB_NOT_ALLOWED_ON_DISASTER_CLUSTER	
EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED	
EMCC_SB_RECOVERY_STATE_UNKNOWN	

metrocluster-switchover

[top]

The metrocluster-switchover API initiates the switchover of storage and client access from a disaster stricken site to the DR site. Nodes in the disaster stricken site must be powered off and unreachable by nodes in the DR site before initiating the switchover operation. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
automatic		boolean optional	This is a hidden option. It is used when Automatic USO is done programatically in 2-node MCC configurations.
controller-replacement		boolean optional	If this optional parameter is used, the nodes in the DR site will be halted.
			If set to true, all volumes being switched over will have their in-

force-nvfail-all		boolean optional	nvfailed-state set to true by the switchover API. Also the force-nvfail-on-dr option will be set to true on the volumes that are not already enabled. The default value is false.
forced-on-disaster		boolean optional	This option is used when all the nodes on the disaster stricken site are powered off and unreachable. In absence of this parameter, the command implies a planned switchover operation
override-vetoes		boolean optional	If this optional parameter is used, the system overrides subsystem vetoes that might prevent the switchover operation
retry-failed-nodes		string[] optional	This optional parameter is available at the advanced privilege level. When a list of nodes is specified by name or UUID, the switchover API is directed to those nodes only. The option is used to make the list of nodes redo a previously failed switchover operation. By default all eligible nodes are switched over
simulate		boolean optional	If this optional parameter is set to true, the system runs a simulation of the negotiated switchover operation to make sure all the prerequisites for the operation are met. This is defaulted to false.
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Switchover Job Id
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CONFIGURE_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_INTERNAL_ERROR	
EMCC_INTERNAL_NODE_ERROR	
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_NODE_NOT_IN_CLUSTER	
EMCC_NOT_MCC_CONFIG	
EMCC_SO_INVALID_PARAMS	
EMCC_UNASSIGN_INTERNAL_ERROR	
EMCC_NSO_FAILED_DOWN_NODES	
EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED	
EMCC_SB_NSO_PRIMARY_NODES_NOT_HEALTHY	
EMCC_SO_DRC_NOT_IN_PARTIAL_STATE	
EMCC_SO_INVALID_DRC_STATE	
EMCC_SO_LOC_NODE_NOT_IN_QUORUM	
EMCC_SO_NODE_INVALID_DRC_STATE	
EMCC_SO_NO_NODES_CAPABLE	

metrocluster-unconfigure

[top]

The metrocluster-unconfigure API wipes the configuration from nodes in a DR group which are in the local cluster where the API is issued. This includes all the nodes in the specified DR group in that local cluster. Nodes in the DR group are disallowed from participating in the metrocluster switchover after the configuration has been wiped. This API is used to tear down a metrocluster setup. The tear down of a node is completed when the hardware that activates the node for metrocluster, such as an FC-VI adapter, is removed or deactivated. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group
start-on-node-and-skip-node-version-checks		string optional	Specify which Node Job Starts On and Skip Node Version Checks

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EMCC_CONFIGURE_NOT_DONE	
EMCC_DR_PARTNERS_CONFIG_NOT_DONE	
EMCC_FIJI_POINT	
EMCC_INTERNAL_ERROR	
EMCC_INTERNAL_NODE_ERROR	
EMCC_INVALID_DR_GROUP_ID	
EMCC_LOCAL_CLUSTER_NOT_CONFIGURED	
EMCC_NODE_NOT_IN_CLUSTER	
EMCC_UNASSIGN_INTERNAL_ERROR	
EMCC_UNASSIGN_NODE_ALREADY_DONE	
EMCC_UNASSIGN_NODE_INTERNAL_ERROR	
EMCC_UNASSIGN_PEER_CLUSTER_UNCONFIGURED	
EMCC_UNASSIGN_PEER_CLUSTER_WARNING	

metrocluster-vserver-get-iter

[top]

Iterate over a list of metrocluster objects.

Input Name	Range	Type	Description
desired-attributes		metrocluster-vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-vserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-vserver-info[] optional	The list of attributes of metrocluster objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

metrocluster-vserver-resync

[top]

Resynchronize Vserver with its partner Vserver

Input Name	Range	Type	Description
cluster-name		cluster-name	Name of the Cluster which contains the Vserver
source-vserver		string	Vserver in the MetroCluster relationship

Errno	Description
ERESYNCFAILEDRETRY	
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **config-cluster-diff-info**

[top]

Check for configuration differences between replicated cluster-domain tables When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attribute-diff-list		config-cluster-attribute-info[] optional	The list of attributes that differ
destination-cluster-name		string optional	Name of destination cluster Attributes: non-creatable, non-modifiable
destination-cluster-uuid		uuid optional	External UUID of destination cluster Attributes: key, non-creatable, non-modifiable
instance	**[0..2^32-1]**	integer optional	The count of object instance Attributes: key, non-creatable, non-modifiable
keys		key-value-pair[] optional	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable
object		string optional	The Cluster-Domain configuration object being compared - for example, aggrView Attributes: key, non-creatable, non-modifiable
skip-excluded-fields		boolean optional	Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable
source-cluster-name		string optional	Name of source cluster Attributes: non-creatable, non-modifiable
source-cluster-uuid		uuid optional	External UUID of source cluster Attributes: key, non-creatable, non-modifiable

Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

Element definition: **metrocluster-check-aggregate-eligibility-info** [top]

MetroCluster Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		aggr-name optional	The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable
comment		string optional	If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable
hosted-configuration-replication-volumes		volume-name[] optional	The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable
is-eligible-to-host-additional-volumes		boolean optional	Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-check-aggregate-info** [top]

MetroCluster check aggregate info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string[] optional	Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable
aggregate		string optional	Name of the aggregate that was checked. Attributes: key, non-creatable, non-modifiable

check		string optional	Name of the check that was checked. Possible values: • 'mirrored' • 'disk_pool_allocation' Attributes: key, non-creatable, non-modifiable Possible values: • "mirroring_status" - Mirroring status, • "disk_pool_allocation" - Disk pool allocation, • "ownership_state" - Check for left-behind aggregates, • "fabricpool_mirror_status" - FabricPool Mirror status
cluster-name		string optional	Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node that the aggregate belonged to. Attributes: key, non-creatable, non-modifiable
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-capture-status-info**

[top]

MetroCluster Config-Replication Capture in Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-capture-in-progress		boolean optional	Whether or not a configuration change is actively being captured. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-check-cluster-info**

[top]

MetroCluster check cluster info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable
check		string optional	Name of the check that was checked. Possible values: • 'negotiated_switchover_ready' • 'switchback_ready' • 'job_schedules' • 'licenses' • 'onboard_key_management' • 'external_key_management' Attributes: key, non-creatable, non-modifiable Possible values: • "none" - No DR OP-ready check is performed, • "negotiated_switchover_ready" - Check if the cluster is ready for a negotiated switchover operation, • "switchback_ready" - Check if the cluster is ready for a switchback operation, • "job_schedules" - Check if the job schedules between the local and the remote cluster are consistent, • "licenses" - Check if the licenses between the local and the remote cluster are consistent, • "periodic_check_enabled" - Check if the periodic MetroCluster Check job is enabled, • "onboard_key_management" - Check if onboard key management hierarchies are consistent, • "external_key_management" - Check if external key management configurations are consistent
cluster-name		string optional	Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' • 'not-applicable' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-config-replication-info**

[top]

Results of the MetroCluster config replication checks When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication Cluster streams. Attributes: non-creatable, non-modifiable
cluster-streams		string optional	Verifies that MetroCluster configuration replication Cluster streams are healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
heartbeat-recovery-steps		string optional	Recovery steps in case the check finds a problem with the remote heartbeat. Attributes: non-creatable, non-modifiable
is-enabled		boolean optional	Verifies that MetroCluster configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable
is-running		boolean optional	Verifies that MetroCluster configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable
last-heartbeat-received		datetime optional	The timestamp of the last MetroCluster configuration replication hearbeat received from the remote cluster. Attributes: non-creatable, non-modifiable
last-heartbeat-sent		datetime optional	The timestamp of the last MetroCluster configuration replication heartbeat sent to the remote cluster. Attributes: non-creatable, non-modifiable
recovery-steps		string optional	Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable
remote-heartbeat		string optional	Verifies that the MetroCluster configuration replication heartbeat with the remote cluster is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
			The location of MetroCluster configuration replication storage.

storage-in-use		string optional	Examples: • Node Local on node-123 • Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A • Unavailable Attributes: non-creatable, non-modifiable
storage-non-healthy-reason		string optional	The underlying root cause for non-healthy MetroCluster configuration replication storage. Attributes: non-creatable, non-modifiable
storage-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable
storage-status		string optional	Verifies that MetroCluster configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
vserver-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable
vserver-streams		string optional	Verifies that MetroCluster configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

Element definition: **metrocluster-check-info**

[top]

MetroCluster check info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information/Recovery steps Attributes: non-creatable, non-modifiable
			Name of the component that was checked. Possible values: • 'nodes', • 'aggregates',

component		string optional	• 'clusters' Attributes: key, non-creatable, non-modifiable Possible values: • "nodes" - Checks For Nodes In MetroCluster, • "lifs" - Checks For LIFs in MetroCluster, • "config_replication" - Checks For Config Replication In MetroCluster, • "aggregates" - Checks For Aggregates In MetroCluster, • "clusters" - Checks For Clusters DR-ready Status, • "connections" - Checks For Connections In MetroCluster Over IP, • "volumes" - Checks For Volumes In MetroCluster
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-node-info**

[top]

MetroCluster check node info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information/Recovery steps in case the check finds a configuration error. Attributes: non-creatable, non-modifiable
			Name of the check that was checked. Possible values: • 'reachable' • 'metrocluster_ready', • 'ha_partner_in_same_cluster', • 'ha_mirroring', • 'symmetric_ha_relationship', • 'dr_partner_in_peer_cluster' • 'dr_mirroring'

check		string optional	'symmetric_dr_relationship' • 'dr_auxiliary_in_peer_cluster' • 'symmetric_dr_auxiliary_relationship' Attributes: key, non-creatable, non-modifiable Possible values: • "node_reachable" - Is the node reachable, • "metrocluster_ready" - Ready for MetroCluster configuration, • "local_ha_partner" - HA partner in same cluster, • "ha_mirroring_on" - HA mirroring, • "ha_mirroring_op_state" - HA mirroring operational state, • "symmetric_ha_relationship" - Symmetric HA relationship, • "remote_dr_partner" - DR partner in peer cluster, • "dr_mirroring_on" - DR Mirroring, • "dr_mirroring_op_state" - DR Mirroring operational state, • "symmetric_dr_relationship" - Symmetric DR relationship, • "remote_dr_auxiliary_partner" - DR Auxiliary in peer cluster, • "symmetric_dr_auxiliary_relationship" - Symmetric DR Auxiliary relationship, • "storage_failover_enabled" - Is storage failover enabled, • "has_intercluster_lif" - Check if the node has an intercluster LIF, • "node_object_limit" - Is node object limit option turned on, • "automatic_uso" - Is automatic USO enabled
cluster-name		string optional	Name of the cluster the node belongs to. Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node that was checked. Attributes: key, non-creatable, non-modifiable
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-check-volume-info**

[top]

MetroCluster check volume info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string[] optional	Additional information/Recovery steps when the check finds a configuration error. Attributes: non-creatable, non-modifiable
check		string optional	Name of the check that was checked. Possible values: • 'unmirrored_flexgroups' • 'mixed_flexgroups' Attributes: key, non-creatable, non-modifiable Possible values: • "unmirrored_flexgroups" - Check to see if any FlexGroups reside on unmirrored aggregates, • "mixed_flexgroups" - Check to see if any FlexGroups reside on a mix of mirrored and unmirrored aggregates
result		string optional	Result of the check. Possible values: • 'ok', • 'warning' • 'not-applicable' Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
timestamp	**[0..2^31-1]**	integer optional	Time at which these results were generated. Attributes: key, non-creatable, non-modifiable
volume		string optional	Volume which these results were generated. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Vserver which these results were generated. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-config-replication-resync-status-info** [top]

MetroCluster configuration replication synchronization status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
inbound-completion-percentage	**[0..2^64-1]**	integer optional	Inbound Completion Percentage Attributes: non-creatable, non-modifiable
			Inbound Synchronization State

inbound-sync-state		string optional	Possible values: • 'messaging', • 'complete', • 'failed' Attributes: non-creatable, non-modifiable
local-cluster-name		string optional	Local Cluster Name Attributes: non-creatable, non-modifiable
outbound-completion-percentage	**[0..2^64-1]**	integer optional	Outbound Completion Percentage Attributes: non-creatable, non-modifiable
outbound-sync-state		string optional	Outbound Synchronization State Possible values: • 'messaging', • 'complete', • 'failed' Attributes: non-creatable, non-modifiable
remote-cluster-name		string optional	Remote Cluster Name Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-cr-storage-info**

[top]

MetroCluster Config-Replication Cluster Storage Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable
use-mirrored-aggregate		boolean optional	Specifies whether mirrored aggregates are currently in use by metrocluster configuration replication. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-info**

[top]

MetroCluster configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
configuration-type		string optional	MetroCluster configuration type Attributes: non-creatable, non-modifiable Possible values: • "invalid" - Invalid topology, • "stretch" - Stretch topology, • "fabric" - Fabric topology, • "two_node_fabric" - Two-node fabric topology, • "ip_fabric" - IP fabric topology, • "ip_two_node_fabric" - Two-node IP fabric topology, • "mixed_fabric" - FC-IP fabric topology
local-allow-forced-auso		boolean optional	Allow Forced AUSO on Local Cluster Attributes: non-creatable, non-modifiable
local-auso-failure-domain		string optional	AUSO Failure Domain on Local Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Automatic USO trigger criteria could not be determined, • "not_reachable" - Cluster is not reachable, • "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down, • "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down, • "auso_disabled" - Automatic USO will not be triggered
local-cluster-name		string optional	Name of the Local Cluster Attributes: non-creatable, non-modifiable
local-configuration-state		string optional	State of the Local Cluster Configuration Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Mode could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "configuration_error" - MetroCluster is not ready for use. Error in configuration., • "partially_configured" - MetroCluster is partially configured, some nodes are not configured., • "configured" - MetroCluster is completely configured
local-mode		string optional	Mode of Operation of Local Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - State could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "normal" - Cluster is in normal mode, • "switchover" - Cluster is in switchover mode, • "waiting_for_switchback" - Cluster is waiting for switchback, • "partial_switchover" - Cluster is in partial switchover mode, • "partial_switchback" - Cluster is in partial switchback mode
local-periodic-		boolean	Is Periodic Check Enabled on Local Cluster Attributes: non-

check-enabled		optional	creatable, non-modifiable
remote-allow-forced-auso		boolean optional	Allow Forced AUSO on Remote Cluster Attributes: non-creatable, non-modifiable
remote-auso-failure-domain		string optional	AUSO Failure Domain on Remote Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Automatic USO trigger criteria could not be determined, • "not_reachable" - Cluster is not reachable, • "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down, • "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down, • "auso_disabled" - Automatic USO will not be triggered
remote-cluster-name		string optional	Name of the Remote Cluster Attributes: non-creatable, non-modifiable
remote-configuration-state		string optional	State of the Remote Cluster Configuration Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Mode could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "configuration_error" - MetroCluster is not ready for use. Error in configuration., • "partially_configured" - MetroCluster is partially configured, some nodes are not configured., • "configured" - MetroCluster is completely configured
remote-mode		string optional	Mode of Operation of Remote Cluster Attributes: non-creatable, non-modifiable Possible values: • "unknown" - State could not be determined, • "not_reachable" - Cluster is not reachable, • "not_configured" - Configuration has not been done, • "normal" - Cluster is in normal mode, • "switchover" - Cluster is in switchover mode, • "waiting_for_switchback" - Cluster is waiting for switchback, • "partial_switchover" - Cluster is in partial switchover mode, • "partial_switchback" - Cluster is in partial switchback mode
remote-periodic-check-enabled		boolean optional	Is Periodic Check Enabled on Remote Cluster Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-adapter**

[top]

Metrocluster interconnect adapter. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Name of the interconnect adapter. For example: cxgb3_0, fcvi_device_0. Attributes: key, non-creatable, non-modifiable
adapter-type		string optional	Type of adapter. Possible Values: • 'IB', • 'iWARP', • 'FC-VI', • 'M-VIA' Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware version of the adapter. For example: 7.7.209, 113.01.00. Attributes: non-creatable, non-modifiable
ip-address		string optional	IP address of the adapter. For example: 1.0.12.2. Attributes: non-creatable, non-modifiable
is-ood-enabled		boolean optional	Is Out-of-Order delivery enabled for the adapter port? Attributes: non-creatable, non-modifiable
link-speed		string optional	Link speed (in Gbps) configured for the adapter port. Possible Values: • '1G', • '2G', • '4G', • '8G', • '16G' Attributes: non-creatable, non-modifiable
link-speed-neg-type		string optional	Type of negotiation done for adapter port speed. Possible Values: • 'Manual', • 'Auto' Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node. Attributes: key, non-creatable, non-modifiable
physical-link-status		string optional	Physical link status of the adapter port. Possible Values: • 'Up', • 'Down' Attributes: non-creatable, non-modifiable
port-name		string optional	Name of the adapter port. For example: c0a, 1a. Attributes: key, non-creatable, non-modifiable
port-wwn		string optional	World Wide Name of the adapter. For example: 21:00:00:24:ff:48:ea:d0. Attributes: non-creatable, non-modifiable
remote-adapter-list		metrocluster-interconnect-remote-adapter[] optional	Information about remote metrocluster interconnect adapter.

switch-model		string optional	Model of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-name		string optional	Name of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-port-name		string optional	Name of the switch port connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-port-wwn		string optional	World Wide Name of the switch port connected to this adapter port. For example: 20:0d:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable
switch-status		string optional	Status of the switch connected to this adapter port. • 'Up', • 'Down' Attributes: non-creatable, non-modifiable
switch-vendor		string optional	Vendor of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable
switch-wwn		string optional	World wide name of the switch connected to this adapter port. For example: 10:00:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-ipfo**

[top]

Metrocluster interconnect ipfo. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	IPFO status of a node. Attributes: non-creatable, modifiable
is-timeout-trigger-enabled		boolean optional	Timeout trigger status of a node. Attributes: non-creatable, modifiable
node-name		node-name optional	Name of the node. Attributes: key, non-creatable, non-modifiable
timeout-trigger-value	**[0..2^32-1]**	integer optional	Timeout based trigger in msecs. Attributes: non-creatable, modifiable

Element definition: **metrocluster-interconnect-mirror**

[top]

Object for cross-cluster NVRAM mirroring between two nodes in DR partnership. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Name of the adapter. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable
adapter-type		string optional	Type of adapter. Possible Values: • 'IB', • 'iWARP', • 'FC-VI', • 'M-VIA' Attributes: non-creatable, non-modifiable
mirroring-admin-status		string optional	Administrative status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values: • "enabled" , • "disabled"
mirroring-oper-status		string optional	Operational status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
node-name		string optional	Name of the node. Attributes: key, non-creatable, non-modifiable
partner-name		string optional	Name of the partner node. Attributes: non-creatable, non-modifiable
partner-type		string optional	Type of partner. Attributes: key, non-creatable, non-modifiable Possible values: • "ha" - High Availability Partner, • "dr" - Disaster Recovery Partner, • "aux" - Disaster Recovery Auxiliary Partner
physical-link-status		string optional	Physical link status of adapter port. Possible values: • 'Up', • 'Down' Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-mirror-multipath**

[top]

Metrocluster interconnect mirror multipath. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
multipath-policy		metroclusterinterconnectmppolicy optional	Multipath policy of the mirror. Attributes: non-creatable, modifiable Possible values: • "no_mp" - No Multipath, • "static_map" - Static Map, • "dynamic_map" - Dynamic Map, • "round_robin" - Round Robin
node-name		node-name optional	Name of the node. Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-interconnect-remotecluster-reachable** [top]

MetroCluster Interconnect Remote Cluster Reachable When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-remote-cluster-reachable		boolean optional	Is the remote cluster visible through an interconnect Attributes: non-creatable, non-modifiable
node		string optional	Node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	Node's UUID Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-node-info** [top]

MetroCluster node configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-configuration-info		string optional	Specifies additional configuration information Attributes: non-creatable, non-modifiable
allow-auto-forced-switchover		boolean optional	Specifies if automatic forced switchover is allowed Attributes: non-creatable, non-modifiable
automatic-uso		boolean optional	Specifies if automatic unsigned switchover is enabled Attributes: non-creatable, non-modifiable
cluster-name		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
configuration-state		string optional	Specifies the state of the node's configuration. Possible values: • 'node-unreachable', • 'configured', • 'not-configured' Attributes: non-creatable, non-modifiable
dr-auxiliary-cluster-uuid		string optional	UUID of the cluster the DR auxiliary partner belongs to Attributes: non-creatable, non-modifiable
dr-auxiliary-partner-node-name		string optional	Name of the DR auxiliary partner Attributes: non-creatable, non-modifiable
dr-auxiliary-partner-uuid		string optional	UUID of the DR auxiliary partner Attributes: non-creatable, non-modifiable
dr-auxiliary-systemid	**[0..2^32-1]**	integer optional	System Id of the DR auxiliary partner Attributes: non-creatable, non-modifiable
dr-cluster-name		string optional	Name of the DR cluster Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
dr-mirroring-state		string optional	Specifies the state of the node Possible values: • '-', • 'enabled', • 'disabled', Attributes: non-creatable, non-modifiable
dr-operation-duration	**[0..2^64-1]**	integer optional	Specifies the time taken to complete the last DR operation in seconds Attributes: non-creatable, non-modifiable
dr-operation-state		string optional	State of the DR operation. Possible values: • 'normal', • 'switchover_in progress', • 'switchover_failed', • 'switchover_completed', • 'heal_aggrs_in progress', • 'heal_aggrs_failed', • 'heal_aggrs_completed',

			• 'heal_roots_in progress', • 'heal_roots_failed', • 'heal_roots_completed', • 'switchback_in_progress', • 'switchback_failed' Attributes: non-creatable, non-modifiable
dr-partner-cluster-uuid		string optional	UUID of the cluster the DR partner belongs to Attributes: non-creatable, non-modifiable
dr-partner-node-name		string optional	Name of the DR partner Attributes: non-creatable, non-modifiable
dr-partner-systemid	**[0..2^32-1]**	integer optional	System Id of the DR partner Attributes: non-creatable, non-modifiable
dr-partner-uuid		string optional	UUID of the DR partner Attributes: non-creatable, non-modifiable
force-node-object-limit		boolean optional	Specifies if the node object limits are enforced Attributes: non-creatable, non-modifiable
ha-partner-cluster-uuid		string optional	UUID of the cluster the HA partner belongs to Attributes: non-creatable, non-modifiable
ha-partner-node-name		string optional	Name of the HA partner Attributes: non-creatable, non-modifiable
ha-partner-systemid	**[0..2^32-1]**	integer optional	System Id of the HA partner Attributes: non-creatable, non-modifiable
ha-partner-uuid		string optional	UUID of the HA partner Attributes: non-creatable, non-modifiable
mccip-node		boolean optional	Specifies if the node HAOSC setting is mccip Attributes: non-creatable, non-modifiable
node-cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-systemid	**[0..2^32-1]**	integer optional	System Id of the node Attributes: non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-operation-info**

[top]

MetroCluster operation history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	Additional information for the job Attributes: non-creatable, non-modifiable
cluster-		string	Name of the cluster the node belongs to Attributes: non-creatable,

name		optional	non-modifiable
command-line		string optional	Command Line With Options Specified Attributes: non-creatable, non-modifiable
end-time	**[0..2^31-1]**	integer optional	Time when the operation ended. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable
error-list		string[] optional	List of errors encountered during the operation Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	Identifier for the job Attributes: non-creatable, non-modifiable
node-name		string optional	Name of the node Attributes: non-creatable, non-modifiable
operation		string optional	Name of the operation. Possible values: • 'configure', • 'modify', • 'switchover', • 'switchback', • 'heal_aggregates', • 'heal_root_aggregates', • 'switchback_continuation_agent', • 'unconfigure', • 'unconfigure_continuation_agent', • 'switchover-simulate', • 'switchback-simulate', • 'check', • 'dr-group-create', • 'dr-group-delete', • 'connect', • 'disconnect', • 'interface-create', • 'interface-delete', • 'interface-modify' Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown operation, • "configure" - MetroCluster configure operation, • "modify" - MetroCluster modify operation, • "switchover" - MetroCluster switchover operation, • "heal_aggregates" - MetroCluster heal aggregates operation, • "heal_root_aggregates" - MetroCluster heal root aggregates operation, • "switchback" - MetroCluster switchback operation, • "switchback_continuation_agent" - MetroCluster switchback continuation agent, • "unconfigure" - MetroCluster unconfigure operation, • "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent, • "switchover_simulate" - MetroCluster switchover simulation operation, • "switchback_simulate" - MetroCluster switchback simulation operation, • "check" - MetroCluster check operation, • "ip_setup" - MetroCluster IP setup operation, • "ip_teardown" - MetroCluster IP teardown operation, • "dr_group_create" - MetroCluster configuration-setting DR Group create operation, • "dr_group_delete" - MetroCluster configuration-setting DR Group

			delete operation, • "connect" - MetroCluster configuration-setting connect operation, • "disconnect" - MetroCluster configuration-setting disconnect operation, • "interface_create" - MetroCluster configuration-setting interface create operation, • "interface_delete" - MetroCluster configuration-setting interface delete operation, • "interface_modify" - MetroCluster configuration-setting interface modify operation, • "heal_aggr_auto" - MetroCluster automatic heal aggregates operation, • "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation, • "remove_dr_group" - MetroCluster remove DR group operation
operation-uuid		string optional	Unique identifier for the operation Attributes: key, non-creatable, non-modifiable
start-time	**[0..2^31-1]**	integer optional	Time when the operation started. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable
state		string optional	State of the operation. Possible values: • 'unknown', • 'in_progress', • 'partially_successful', • 'completed_with_manual_recovery_needed', • 'completed_with_warnings', • 'successful', • 'failed' Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Could not determine the state of the operation, • "in_progress" - The operation is in progress, • "partially_successful" - The operation has ended and it was partially successful, • "successful" - The operation has ended and it was successful, • "failed" - The operation has ended and it failed, • "completed_with_manual_recovery_needed" - The operation has ended but some steps need to be manually run, • "completed_with_warnings" - The operation has ended and it was successful but there were some warnings during the operation

Element definition: **metrocluster-operation-statistics-info**

[top]

Metrocluster opertaion statistics info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failed	**[0..2^64-1]**	integer optional	Number of failed instances of each operation Attributes: non-creatable, non-modifiable
operation		string optional	Name of the operation. Possible values: • 'configure', • 'modify', • 'switchover', • 'switchback', • 'heal_aggregates', • 'heal_root_aggregates', • 'switchback_continuation_agent', • 'unconfigure', • 'unconfigure_continuation_agent', • 'switchover-simulate', • 'switchback-simulate', • 'check', • 'dr-group-create', • 'dr-group-delete', • 'connect', • 'disconnect', • 'interface-create', • 'interface-delete', • 'interface-modify' Attributes: key, non-creatable, non-modifiable Possible values: • "unknown" - Unknown operation, • "configure" - MetroCluster configure operation, • "modify" - MetroCluster modify operation, • "switchover" - MetroCluster switchover operation, • "heal_aggregates" - MetroCluster heal aggregates operation, • "heal_root_aggregates" - MetroCluster heal root aggregates operation, • "switchback" - MetroCluster switchback operation, • "switchback_continuation_agent" - MetroCluster switchback continuation agent, • "unconfigure" - MetroCluster unconfigure operation, • "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent, • "switchover_simulate" - MetroCluster switchover simulation operation, • "switchback_simulate" - MetroCluster switchback simulation operation, • "check" - MetroCluster check operation, • "ip_setup" - MetroCluster IP setup operation, • "ip_teardown" - MetroCluster IP teardown operation, • "dr_group_create" - MetroCluster configuration-setting DR Group create operation, • "dr_group_delete" - MetroCluster configuration-setting DR Group delete operation, • "connect" - MetroCluster configuration-setting connect operation, • "disconnect" - MetroCluster configuration-setting disconnect operation,

			"interface_create" - MetroCluster configuration-setting interface create operation, • "interface_delete" - MetroCluster configuration-setting interface delete operation, • "interface_modify" - MetroCluster configuration-setting interface modify operation, • "heal_aggr_auto" - MetroCluster automatic heal aggregates operation, • "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation, • "remove_dr_group" - MetroCluster remove DR group operation
succeeded	**[0..2^64-1]**	integer optional	Number of successful instances of each operation Attributes: non-creatable, non-modifiable
total-instances	**[0..2^64-1]**	integer optional	Total number of instances of each operation Attributes: non-creatable, non-modifiable

Element definition: **metrocluster-progress-table-info**

[top]

MetroCluster progress table info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
duration	**[0..2^64-1]**	integer optional	Time spent by this subsystem processing this operation in seconds Attributes: non-creatable, non-modifiable
entry-name		string optional	Name of the subsystem Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Resource Table Index Attributes: key, non-creatable, non-modifiable
node-name		string optional	Node Attributes: key, non-creatable, non-modifiable
state		string optional	State of the subsystem. Possible values: • 'switchover_in_progress', • 'switchover_failed_or_incomplete_for_some_nodes', • 'switchover_completed_successfully', • 'healing_phase_roots_in_progress', • 'healing_phase_roots_failed_or_incomplete_for_some_nodes', • 'healing_phase_roots_completed_successfully', • 'healing_phase_aggregates_in_progress', • 'healing_phase_aggregates_failed_or_incomplete_for_some_nodes', • 'healing_phase_aggregates_completed_successfully', • 'switchback_in_progress', • 'switchback_failed_or_incomplete_for_some_nodes'

Element definition: **metrocluster-show-lif-placement-failures**

[top]

Display LIF placement failures in MetroCluster setup When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
data-protocol		string[] optional	Data Protocol of the sync source Vserver LIF Attributes: non-creatable, non-modifiable Possible values: • "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols., • "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
lif-placement-failure		string optional	LIF Placement Failures in MetroCluster setup LIF Placement failures: • 'Port hosting the sync source vserver FC LIF in the source cluster is not connected to any fabric', • 'MetroCluster DR Node is offline', • 'No ports found on MetroCluster DR node connected to fabric with fabric name ', • 'No ports found on MetroCluster DR node of CNA adapter-type', • 'No ports found on MetroCluster DR node of FC adapter-type', • 'No ports found on MetroCluster DR node connected to the required subnet ' Attributes: non-creatable, non-modifiable
sync-source-vserver		string optional	sync-source Vserver Name Attributes: key, non-creatable, non-modifiable
sync-source-vserver-lif		string optional	sync-source Vserver LIF Name Attributes: key, non-creatable, non-modifiable

Element definition: **metrocluster-vserver-info**

[top]

Metroclsuter Vserver Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		cluster-name optional	Cluster name Attributes: key, non-creatable, non-modifiable
configuration-state		vs-mcc-config-state optional	This describes the configuration state of the MetroCluster setup. It can have three possible values: healthy, unhealthy, degraded. The configuration-state is described as healthy when both the local and remote streams are up and there are no failed operations in the stream. If either the local stream's or the remote stream's operation state is not up, the configuration-state is unhealthy. If there is a failed operation in the stream, the configuration-state is degraded. Attributes: non-creatable, non-modifiable Possible values: • "healthy" , • "unhealthy" , • "degraded" , • "pending_setup" , • "syncing" , • "replication_paused" , • "pending_switchback"
failed-reason		string optional	Failed Replication Reason Attributes: non-creatable, non-modifiable
failed-row		string optional	This field appears in the output only if the failed operation is configuration_apply. This specifies the row for which the apply has failed. Attributes: non-creatable, non-modifiable
partner-vserver		string optional	Partner Vserver in the MetroCluster relationship Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver in the MetroCluster relationship Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **config-cluster-attribute-info**

[top]

The name of attribute and its values at source and destination

Name	Range	Type	Description
attribute		string optional	Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable
destination-cluster-value		string optional	Value of the configuration attribute at destination cluster Attributes: non-creatable, non-modifiable
source-cluster-value		string optional	Value of the configuration attribute at source cluster Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **metrocluster-interconnect-remote-adapter**

[top]

Information about remote metrocluster interconnect adapter.

Name	Range	Type	Description
remote-adapter-name		string optional	Name of the remote adapter connected to this adapter port. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable
remote-adapter-port-id	**[0..2^32-1]**	integer optional	ID of the remote adapter port connected to this adapter port. Attributes: non-creatable, non-modifiable

remote-adapter-port-name		node-name optional	Remote Adapter Port Name Attributes: non-creatable, non-modifiable
remote-adapter-port-wwn		string optional	World Wide Name of the remote adapter connected to this adapter port. For example: 21:00:00:24:ff:48:ff:47. Attributes: non-creatable, non-modifiable
remote-partner-node-name		node-name optional	Name of the remote partner node hosting the remote adapter. Attributes: non-creatable, non-modifiable

Element definition: **metroclusterinterconnectmppolicy**

[top]

no-mp|static-map|dynamic-map|round-robin Possible values:

- "no_mp" - No Multipath,
- "static_map" - Static Map,
- "dynamic_map" - Dynamic Map,
- "round_robin" - Round Robin

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vs-mcc-config-state**

[top]

healthy|unhealthy|degraded|pending-setup|syncing|replication-paused|pending-switchback Possible values:

- "healthy" ,
- "unhealthy" ,
- "degraded" ,
- "pending_setup" ,
- "syncing" ,
- "replication_paused" ,
- "pending_switchback"

[none]

APIs in Category: **metrocluster-check-connection**

metrocluster-check-connection-get-iter	These APIs check the connections for nodes in a MetroCluster over IP configuration

metrocluster-check-connection-get-iter

[top]

Iterate over a list of metrocluster-check-connection-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-check-connection-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-check-connection-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-connection object. All metrocluster-check-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-check-connection-info[] optional	The list of attributes of metrocluster-check-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-check-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-check-connection-info**

[top]

MetroCluster check connection info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
check-mtu-size-error-info		string optional	Check connection MTU size error information Attributes: non-creatable, non-modifiable
check-ping-error-info		string optional	Check connection ping error information Attributes: non-creatable, non-modifiable
check-result		string optional	Check connection result Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
check-storage-error-info		string optional	Check connection storage error information Attributes: non-creatable, non-modifiable
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-error-info		string optional	Connection configuration error information Attributes: non-creatable, non-modifiable
config-state		string optional	Connection configuration state Possible values: • 'disconnected', • 'completed', • 'connect-check', • 'connect-nvlog', • 'connect-storage', • 'disconnect-storage', • 'disconnect-nvlog', • 'connect-prepare', • 'connect-update' Attributes: non-creatable, non-modifiable
destination-address		string optional	IP address for the port on the partner node Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
home-port		string optional	Name of the port on the node Attributes: key, non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: key, non-creatable, non-modifiable
partner-cluster-uuid		string optional	UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable
partner-node		string optional	Name of the partner node Attributes: non-creatable, non-modifiable

partner-node-uuid		string optional	UUID of the partner node Attributes: non-creatable, non-modifiable
partner-type		string optional	Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable
relationship-type		string optional	Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values: • "self" , • "ha" , • "dr_primary" , • "dr_auxiliary" , • "unknown"
source-address		string optional	IP address for the port on the node Attributes: non-creatable, non-modifiable

APIs in Category: **metrocluster-configuration-settings**

metrocluster-configuration-settings-get-iter	These APIs manage the configuration settings for a MetroCluster over IP setup

metrocluster-configuration-settings-get-iter

[top]

Iterate over a list of metrocluster-configuration-settings-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-configuration-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-configuration-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-configuration-settings object. All metrocluster-configuration-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-configuration-settings-info[] optional	The list of attributes of metrocluster-configuration-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-configuration-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-configuration-settings-info**

[top]

MetroCluster configuration settings info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-error-info		string optional	Configuration error information Attributes: non-creatable, non-modifiable
configuration-status		string optional	Configuration status Attributes: non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable

APIs in Category: **metrocluster-connection**

metrocluster-connection-connect-async
metrocluster-connection-disconnect-async
metrocluster-connection-get-iter

These APIs manage the connections between source and destination network interfaces for MetroCluster over IP setup

metrocluster-connection-connect-async

[top]

Configure the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster sertup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-connection-disconnect-async

[top]

Tear down the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster setup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
dr-group-id	**[0..2^32-1]**	integer	DR Group ID

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.

result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-connection-get-iter

[top]

Iterate over a list of metrocluster-connection-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-connection-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-connection-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-connection object. All metrocluster-connection objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-connection-info[] optional	The list of attributes of metrocluster-connection objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-connection objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-connection-info**

[top]

MetroCluster Connection configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-error-info		string optional	Connection configuration error information Attributes: non-creatable, non-modifiable
config-state		string optional	Connection configuration state Possible values: • 'disconnected', • 'completed', • 'connect-check', • 'connect-nvlog', • 'connect-storage', • 'disconnect-storage', • 'disconnect-nvlog', • 'connect-prepare', • 'connect-update' Attributes: non-creatable, non-modifiable
destination-address		string optional	IP address for the port on the partner node Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
home-port		string optional	Name of the port on the node Attributes: key, non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: key, non-creatable, non-modifiable
partner-cluster-uuid		string optional	UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable
partner-node		string optional	Name of the partner node Attributes: non-creatable, non-modifiable
partner-node-uuid		string optional	UUID of the partner node Attributes: non-creatable, non-modifiable
partner-type		string optional	Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable
relationship-type		string optional	Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values: • "self" , • "ha" , • "dr_primary" , • "dr_auxiliary" , • "unknown"
source-address		string optional	IP address for the port on the node Attributes: non-creatable, non-modifiable

APIs in Category: **metrocluster-dr-group**

metrocluster-dr-group-create
metrocluster-dr-group-delete
metrocluster-dr-group-get-iter

These APIs manage the DR groups for a MetroCluster over IP setup

metrocluster-dr-group-create

[top]

Create MetroCluster DR group

Input Name	Range	Type	Description
local-node		string	Local Node Name
partner-cluster		string	Partner Cluster Name
remote-node		string	Remote Node Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-dr-group-delete

[top]

Delete MetroCluster DR group

Input Name	Range	Type	Description
dr-group-id	**[0..2^32-1]**	integer	Dr group Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-dr-group-get-iter

[top]

Iterate over a list of metrocluster-dr-group-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-dr-group-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		optional	available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-dr-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-dr-group object. All metrocluster-dr-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-dr-group-info[] optional	The list of attributes of metrocluster-dr-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-dr-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-dr-group-info**

[top]

MetroCluster DR group configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
dr-partner-node		string optional	Name of the DR partner node Attributes: non-creatable, non-modifiable
dr-partner-node-uuid		string optional	UUID of the DR partner node Attributes: non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string	UUID of the node Attributes: key, non-creatable, non-modifiable

		optional	

APIs in Category: **metrocluster-interface**

metrocluster-interface-create
metrocluster-interface-delete
metrocluster-interface-get-iter

These APIs manage the logical interface for a MetroCluster over IP setup

metrocluster-interface-create

[top]

Create a MetroCluster Interface

Input Name	Range	Type	Description
address		string	Network Address
cluster-name		string	Cluster Name
home-node		string	Home Node
home-port		string	Home Port
netmask		string	Netmask
vlan-id	**[0..2^32-1]**	integer optional	Virtual LAN ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-interface-delete

[top]

Delete a MetroCluster Interface

Input Name	Range	Type	Description
cluster-name		string	Cluster Name
home-node		string	Home Node
home-port		string	Home Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

metrocluster-interface-get-iter

[top]

Iterate over a list of metrocluster-interface-info objects

Input Name	Range	Type	Description
desired-attributes		metrocluster-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		metrocluster-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-interface object. All metrocluster-interface objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		metrocluster-interface-info[] optional	The list of attributes of metrocluster-interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more metrocluster-interface objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **metrocluster-interface-info**

[top]

MetroCluster Interface configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		string optional	IP address Attributes: non-creatable, non-modifiable
cluster		string optional	Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
cluster-uuid		string optional	UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable
config-		string	Interface configuration error information Attributes: non-creatable,

error-info		optional	non-modifiable
config-state		string optional	Interface configuration state Possible values: • 'create-interface', • 'delete-interface', • 'setup-storage', • 'teardown-storage' • 'completed', • 'prepare-connection', • 'disconnect-connection' Attributes: non-creatable, non-modifiable
dr-group-id	**[0..2^32-1]**	integer optional	Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable
gateway		string optional	Gateway Attributes: non-creatable, non-modifiable
home-port		string optional	Name of the port on the node Attributes: key, non-creatable, non-modifiable
netmask		string optional	Netmask Attributes: non-creatable, non-modifiable
node		string optional	Name of the node Attributes: key, non-creatable, non-modifiable
node-uuid		string optional	UUID of the node Attributes: key, non-creatable, non-modifiable
vlan-id	**[0..2^32-1]**	integer optional	Interface virtual LAN identifier Attributes: non-creatable, non-modifiable

APIs in Category: **name-mapping**

name-mapping-create
name-mapping-delete
name-mapping-get-iter
name-mapping-insert
name-mapping-modify
name-mapping-refresh-hostname
name-mapping-swap
name-mapping-unix-group-add-user
name-mapping-unix-group-create
name-mapping-unix-group-delete-user
name-mapping-unix-group-destroy
name-mapping-unix-group-get
name-mapping-unix-group-get-iter
name-mapping-unix-group-modify
name-mapping-unix-user-create
name-mapping-unix-user-destroy
name-mapping-unix-user-get
name-mapping-unix-user-get-iter
name-mapping-unix-user-modify

This set of APIs are used to manage name mappings between Kerberos users, Windows users and UNIX users. name-mapping-unix-user APIs are used to manage local UNIX users. name-mapping-unix-group APIs are used to manage local UNIX groups. When a NFS client wishes to access a file having NTFS style permission, name-mapping rule is applied to determine the Windows User that maps to the NFS Client user under consideration. When a CIFS client wishes to access a file having UNIX style permission name-mapping rule is applied to determine the UNIX user that maps to the CIFS user under consideration. When neither NIS nor LDAP is configured, credentials for the mapped UNIX user is obtained from the local database created using name-mapping-unix-user and name-mapping-unix-group APIs.

name-mapping-create

[top]

Create a new name mapping for a Vserver.

Input Name	Range	Type	Description
address		ip-and-mask optional	IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement.
		name-	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name

direction		mapping-direction	mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname.
pattern		string	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.
replacement		string	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.
return-record		boolean optional	If set to true, returns the name-mapping on successful creation. Default: false

Output Name	Range	Type	Description
result		name-mapping-info optional	The name-mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

name-mapping-delete

[top]

Delete an existing name mapping entry.

Input Name	Range	Type	Description
direction		name-mapping-direction	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping

position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-get-iter

[top]

Retrieve the list of name mappings in the cluster.

Input Name	Range	Type	Description
desired-attributes		name-mapping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-mapping-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-mapping object. All name-mapping objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-mapping-info[] optional	The list of attributes of name-mapping objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-mapping objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-mapping-insert

[top]

Insert a name mapping into the table at a specified position.

Input Name	Range	Type	Description
address		ip-and-mask optional	This optional parameter specifies the IP address which can be used to match the client IP address with the pattern.

direction		name-mapping-direction	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	This optional parameter specifies the Hostname which can be used to match the client IP address with the list of IP addresses corresspoding to the provided hostname.
pattern		string	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..2147483647]**	integer	Position within the set of name mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list.
replacement		string	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-modify

[top]

Modify an existing name mapping entry.

Input Name	Range	Type	Description
address		ip-and-mask optional	IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement.
direction		name-mapping-direction	Direction in which the name mapping is applied. Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name

			mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname.
pattern		string optional	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows.
position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.
replacement		string optional	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-refresh-hostname

[top]

Resolve The IP addresses for the configured Hostname.

Input Name	Range	Type	Description
direction		name-mapping-direction optional	Name Mapping Direction Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

[top]

name-mapping-swap

Swap the position of one name mapping with another. The position is the place in the sequence of name mappings in which the mappings are applied.

Input Name	Range	Type	Description
direction		string	Direction in which the name mapping is applied.
position	**[1..2147483647]**	integer	Position of an existing name mapping in the list of name mappings for this Vserver.
with-position	**[0..2^32-1]**	integer	Position of an existing name mapping entry in the list of name mappings for this Vserver. This entry will be swapped with the entry at 'position'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-mapping-unix-group-add-user

[top]

Add a user to a UNIX group

Input Name	Range	Type	Description
group-name		string	Specifies UNIX group name.
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-create

[top]

Create a new UNIX group.

Input Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer	Specifies an identification number for the UNIX group.
group-name		string	Specifies UNIX group name.
return-record		boolean optional	If set to true, returns the UNIX group information on successful creation. Default: false
skip-name-validation		boolean optional	Specifies if group name validation is skipped.

Output Name	Range	Type	Description
result		unix-group-info optional	The UNIX group information created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-delete-user

[top]

Delete a user from a UNIX group

Input Name	Range	Type	Description
group-name		string	Specifies UNIX group name.
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-destroy

[top]

Destroy an existing UNIX group.

Input Name	Range	Type	Description
group-name		string	Specifies UNIX group name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-group-get

[top]

Get the attributes of a UNIX group.

Input Name	Range	Type	Description
desired-attributes		unix-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
group-name		string	Specifies UNIX group name.

Output Name	Range	Type	Description
attributes		unix-group-info	The attributes of the UNIX group information.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD	

name-mapping-unix-group-get-iter

[top]

Iterate over a list of UNIX groups.

Input Name	Range	Type	Description
desired-attributes		unix-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		unix-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX group information object. All UNIX group information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		unix-group-info[] optional	The list of attributes of UNIX group information objects.
		string	Tag for the next call. Not present when there are no more UNIX

next-tag		optional	group information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD	

name-mapping-unix-group-modify

[top]

Modify the attributes of a UNIX group.

Input Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX group.
group-name		string	Specifies UNIX group name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-user-create

[top]

Create a new UNIX user.

Input Name	Range	Type	Description
full-name		string optional	Specifies the full name of the UNIX user.
group-id	**[0..2^32-1]**	integer	Specifies the primary group identification number for the UNIX user.
return-record		boolean optional	If set to true, returns the UNIX user information on successful creation. Default: false
skip-name-validation		boolean optional	Specifies if user name validation is skipped.
user-id	**[0..2^32-1]**	integer	Specifies an identification number for the UNIX user.
user-name		string	Specifies user's UNIX account name.

Output Name	Range	Type	Description
result		unix-user-info optional	The UNIX user information created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-user-destroy

[top]

Destroy an existing UNIX user.

Input Name	Range	Type	Description
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-mapping-unix-user-get

[top]

Get the attributes of a UNIX user.

Input Name	Range	Type	Description
desired-attributes		unix-user-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
user-name		string	Specifies user's UNIX account name.

Output Name	Range	Type	Description
attributes		unix-user-info	The attributes of the UNIX user information.

Errno	Description

EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_USER_ALT_CMD	

name-mapping-unix-user-get-iter

[top]

Iterate over a list of UNIX users.

Input Name	Range	Type	Description
desired-attributes		unix-user-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		unix-user-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX user information object. All UNIX user information objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		unix-user-info[] optional	The list of attributes of UNIX user information objects.
next-tag		string optional	Tag for the next call. Not present when there are no more UNIX user information objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
E_NS_CONFIG_FILEONLY_USER_ALT_CMD	

name-mapping-unix-user-modify

[top]

Modify the attributes of a UNIX user.

Input Name	Range	Type	Description
full-name		string optional	Specifies the full name of the UNIX user.

group-id	**[0..2^32-1]**	integer optional	Specifies the primary group identification number for the UNIX user.
user-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX user.
user-name		string	Specifies user's UNIX account name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NS_CONFIG_FILEONLY_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

Element definition: **name-mapping-info**

[top]

Name mapping configuration for Vservers. The possible sources of name mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user names, UNIX user names and Kerberos principal names can be three disjoint sets of names. A mechanism is needed to map users from one set to another when performing authorization checks. Each name mapping entry represents one such map in a given direction. Name mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to 'EXAMPLE\\(.+)' and the replacement string should be set to '\1'. The double ba) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do

not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the same name. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-and-mask optional	IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. Attributes: optional-for-create, modifiable
direction		name-mapping-direction optional	Direction in which the name mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values: • "krb_unix" - Kerberos principal name to UNIX user name mapping, • "win_unix" - Windows user name to UNIX user name mapping, • "unix_win" - UNIX user name to Windows user name mapping, • "s3_unix" - S3 user name to UNIX user name mapping, • "s3_win" - S3 user name to Windows user name mapping
hostname		string optional	Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. Attributes: optional-for-create, modifiable
pattern		string optional	Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable
position	**[1..2147483647]**	integer optional	Position of an existing name mapping in the list of name mappings for this Vserver. Attributes: key, required-for-create, non-modifiable
replacement		string optional	The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable
vserver		string optional	Specifies the Vserver for the name mapping. Attributes: key, non-creatable, non-modifiable

Element definition: **unix-group-info**

[top]

UNIX group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX group. Attributes: required-for-create, modifiable
group-name		string optional	Specifies UNIX group name. Attributes: key, required-for-create, non-modifiable
skip-name-validation		boolean optional	Specifies if group name validation is skipped. Attributes: optional-for-create, non-modifiable
users		unix-user-name[] optional	Specifies the list of UNIX users that belong to the UNIX group.
vserver		string optional	Specifies the Vserver for the group. Attributes: key, non-creatable, non-modifiable

Element definition: **unix-user-info**

[top]

UNIX user information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
full-name		string optional	Specifies the full name of the UNIX user. Attributes: optional-for-create, modifiable
group-id	**[0..2^32-1]**	integer optional	Specifies the primary group identification number for the UNIX user. Attributes: required-for-create, modifiable
skip-name-validation		boolean optional	Specifies if user name validation is skipped. Attributes: optional-for-create, non-modifiable
user-id	**[0..2^32-1]**	integer optional	Specifies an identification number for the UNIX user. Attributes: required-for-create, modifiable
user-name		string	Specifies user's UNIX account name. Attributes: key, required-for-

		optional	create, non-modifiable
vserver		string optional	Specifies the Vserver for the UNIX user. Attributes: key, non-creatable, non-modifiable

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

Element definition: **unix-user-name**

[top]

Specifies user name information.

Name	Range	Type	Description
user-name		string optional	Specifies user's UNIX account name. Attributes: non-creatable, non-modifiable

APIs in Category: **nameservice**

name-service-cache-group-membership-settings-get
name-service-cache-group-membership-settings-get-iter
name-service-cache-group-membership-settings-modify
name-service-cache-hosts-settings-get
name-service-cache-hosts-settings-get-iter
name-service-cache-hosts-settings-modify
name-service-cache-netgroup-settings-get
name-service-cache-netgroup-settings-get-iter
name-service-cache-netgroup-settings-modify
name-service-cache-unix-group-settings-get
name-service-cache-unix-group-settings-get-iter
name-service-cache-unix-group-settings-modify
name-service-cache-unix-user-settings-get
name-service-cache-unix-user-settings-get-iter
name-service-cache-unix-user-settings-modify
name-service-nis-binding-detail-get
name-service-nis-binding-detail-get-iter
name-service-nis-show-bound
name-service-nis-show-bound-iter
name-service-unix-group-fileonly-get
name-service-unix-user-fileonly-get
nameservice-get-hostname-from-ipv4
nameservice-get-ip-from-hostname
nameservice-get-ipv4-from-hostname
nameservice-nsswitch-create
nameservice-nsswitch-destroy
nameservice-nsswitch-get
nameservice-nsswitch-get-iter
nameservice-nsswitch-modify

name-service-cache-group-membership-settings-get

[top]

Get the name services group membership cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-group-membership-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-group-membership-	The attributes of the name-service-cache-group-membership-settings.

		settings-info	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-group-membership-settings-get-iter

[top]

Get the name services group membership cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-group-membership-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-group-membership-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-group-membership-settings object. All name-service-cache-group-membership-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-group-membership-settings-info[] optional	The list of attributes of name-service-cache-group-membership-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-group-membership-settings objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-group-membership-settings-modify

[top]

Modify the name services group membership cache configuration of the specified Vserver. Omitted

(optional) fields will not be changed.

Input Name	Range	Type	Description
grplist-ttl		time-interval optional	Time to Live for Grplist
is-enabled		boolean optional	Is Cache Enabled?

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-hosts-settings-get

[top]

Get the name services hosts cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-hosts-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-hosts-settings-info	The attributes of the name-service-cache-hosts-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-hosts-settings-get-iter

[top]

Get the name services hosts cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-hosts-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-hosts-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-hosts-settings object. All name-service-cache-hosts-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-hosts-settings-info[] optional	The list of attributes of name-service-cache-hosts-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-hosts-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-hosts-settings-modify

[top]

Modify the name services hosts cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-dns-ttl-enabled		boolean optional	Is TTL Taken from DNS
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-netgroup-settings-get

[top]

Get the name services netgroup cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-netgroup-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-netgroup-settings-info	The attributes of the name-service-cache-netgroup-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-netgroup-settings-get-iter

[top]

Get the name services netgroup cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-netgroup-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-netgroup-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-netgroup-settings object. All name-service-cache-netgroup-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		name-service-cache-netgroup-settings-info[] optional	The list of attributes of name-service-cache-netgroup-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-netgroup-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-netgroup-settings-modify

[top]

Modify the name services netgroup cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live
ttl-members		time-interval optional	TTL for netgroup members

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-unix-group-settings-get

[top]

Get the name services UNIX group cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-group-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-unix-group-settings-info	The attributes of the name-service-cache-unix-group-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-unix-group-settings-get-iter

[top]

Get the name services unix-group cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-group-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-unix-group-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-group-settings object. All name-service-cache-unix-group-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-unix-group-settings-info[] optional	The list of attributes of name-service-cache-unix-group-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-unix-group-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-unix-group-settings-modify

[top]

Modify the name services UNIX group cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled?
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
is-propagation-enabled		boolean optional	Is Propagation Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-cache-unix-user-settings-get

[top]

Get the name services UNIX users cache configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-user-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-cache-unix-user-settings-info	The attributes of the name-service-cache-unix-user-settings.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

name-service-cache-unix-user-settings-get-iter

[top]

Get the name services unix-user cache configuration of the Cluster

Input Name	Range	Type	Description
desired-attributes		name-service-cache-unix-user-settings-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		name-service-cache-unix-user-settings-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-user-settings object. All name-service-cache-unix-user-settings objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		name-service-cache-unix-user-settings-info[] optional	The list of attributes of name-service-cache-unix-user-settings objects.
next-tag		string optional	Tag for the next call. Not present when there are no more name-service-cache-unix-user-settings objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

name-service-cache-unix-user-settings-modify

[top]

Modify the name services UNIX users cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
is-enabled		boolean	Is Cache Enabled?

		optional	
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled?
is-propagation-enabled		boolean optional	Is Propagation Enabled?
negative-ttl		time-interval optional	Negative Time to Live
ttl		time-interval optional	Time to Live

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

name-service-nis-binding-detail-get

[top]

Show bound NIS servers

Input Name	Range	Type	Description
bound-server		string	Specifies the hostname/IP address of the NIS server in the domain.
desired-attributes		nis-binding-detail optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Output Name	Range	Type	Description
attributes		nis-binding-detail	The attributes of the nis-binding-detail.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

name-service-nis-binding-detail-get-iter

[top]

Iterate over a list of bound NIS servers

Input Name	Range	Type	Description
desired-attributes		nis-binding-detail optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nis-binding-detail optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-binding-detail object. All nis-binding-detail objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nis-binding-detail[] optional	The list of attributes of nis-binding-detail objects.
next-tag		string optional	Tag for the next call. Not present when there are no more nis-binding-detail objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

name-service-nis-show-bound

[top]

Show bound nis servers

Input Name	Range	Type	Description
desired-attributes		nis-domain-show-bound optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Output Name	Range	Type	Description
attributes		nis-domain-show-bound	The attributes of the nis-show-bound.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

name-service-nis-show-bound-iter

[top]

Iterate over a list of bound nis servers

Input Name	Range	Type	Description
desired-attributes		nis-domain-show-bound optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nis-domain-show-bound optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-show-bound object. All nis-show-bound objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nis-domain-show-bound[] optional	The list of attributes of nis-show-bound objects.
next-tag		string optional	Tag for the next call. Not present when there are no more nis-show-bound objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

name-service-unix-group-fileonly-get

[top]

Display Configuration for UNIX-Group file download

Input Name	Range	Type	Description
desired-attributes		name-service-unix-group-fileonly-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
		name-	

attributes		service-unix-group-fileonly-info	The attributes of the name-service-unix-group-fileonly.

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	
EOBJECTNOTFOUND	

name-service-unix-user-fileonly-get

[top]

Display Configuration for UNIX-User file download

Input Name	Range	Type	Description
desired-attributes		name-service-unix-user-fileonly-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		name-service-unix-user-fileonly-info	The attributes of the name-service-unix-user-fileonly.

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	
EOBJECTNOTFOUND	

nameservice-get-hostname-from-ipv4

[top]

Get the host information from the IP address.

Input Name	Range	Type	Description
ip-address		string	IPv4 address of the host to be resolved, in dotted decimal notation (for example, 10.56.10.125).
node		string	Name of the node over which the command is to be run.
show-source		boolean optional	Source used for Lookup
vserver		string	Vserver Name

Output Name	Range	Type	Description
canonical-name		string	Canonical Host-Name of the IpAddress to be resolved
source		string	Source used for Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EHOSTNOTFOUND	
EHOST_TRYAGAIN	
E_NODATA	

nameservice-get-ip-from-hostname

[top]

Get the IP address information by using the host name.

Input Name	Range	Type	Description
address-family		address-family optional	Return Addresses for Family
hostname		string	Name of the host to be resolved
node		string	Name of the node over which the command is to be run.
show-source		boolean optional	Show Source used for lookup
vserver		string	Vserver Name

Output Name	Range	Type	Description
ipaddress		ip-address[]	One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.12) or the textual representation of an IPv6 address (for example, 2001:DB8:0:0:8:800:200C:417A or 2001:DB8::8:800:200C:417A). No hostname resolution
source		string	Source used for Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERNOTFOUND	
E_AGAIN	
E_NONAME	
E_MEMORY	
E_FAMILY	

nameservice-get-ipv4-from-hostname

[top]

Get the IP address information from host name.

Input Name	Range	Type	Description
hostname		string	Name of the host to be resolved
node		string	Name of the node over which the command is to be run.
show-source		boolean optional	Source used for Lookup
vserver		string	Vserver Name

Output Name	Range	Type	Description
ipaddress		ip-address[]	One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.125).
source		string	Source used for Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERNOTFOUND	
EHOSTNOTFOUND	
EHOST_TRYAGAIN	
E_NODATA	

nameservice-nsswitch-create

[top]

Create an Name Service Switch Configuration.

Input Name	Range	Type	Description
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database
nameservice-sources		nss-source-type[]	Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values: • "files" - Local File Name System service setup, • "dns" - Domain Name System service setup, • "ldap" - Lightweight Directory Access Protocol service setup, • "nis" - Network Information Service service setup
return-record		boolean optional	If set to true, returns the nsswitch on successful creation. Default: false

Output Name	Range	Type	Description
		namservice-	

result		nsswitch-config-info optional	The nsswitch created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nameservice-nsswitch-destroy

[top]

Destroy an existing Name Service Switch Configuration.

Input Name	Range	Type	Description
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nameservice-nsswitch-get

[top]

Get Name Service Switch Configuration.

Input Name	Range	Type	Description
desired-attributes		namservice-nsswitch-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database,

			"passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database

Output Name	Range	Type	Description
attributes		namservice-nsswitch-config-info	The attributes of the nsswitch.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

nameservice-nsswitch-get-iter

[top]

Iterate over a list of Name Service Switch Configurations.

Input Name	Range	Type	Description
desired-attributes		namservice-nsswitch-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		namservice-nsswitch-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the nsswitch object. All nsswitch objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		namservice-nsswitch-config-info[] optional	The list of attributes of nsswitch objects.
next-tag		string optional	Tag for the next call. Not present when there are no more nsswitch objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

nameservice-nsswitch-modify

[top]

Modify the attributes of Name Service Switch Configuration.

Input Name	Range	Type	Description
nameservice-database		nss-db-type	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database
nameservice-sources		nss-source-type[] optional	Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values: • "files" - Local File Name System service setup, • "dns" - Domain Name System service setup, • "ldap" - Lightweight Directory Access Protocol service setup, • "nis" - Network Information Service service setup

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **address-family**

[top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **name-service-cache-group-membership-settings-info**

[top]

Contains name services group membership cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
grplist-ttl		time-interval optional	Time to Live for Grplist Attributes: optional-for-create, modifiable
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-hosts-settings-info**

[top]

Contains name services hosts cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-dns-ttl-enabled		boolean optional	Is TTL Taken from DNS Attributes: optional-for-create, modifiable
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-netgroup-settings-info**

[top]

Contains name services netgroup cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
ttl-members		time-interval optional	TTL for netgroup members Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-unix-group-settings-info**

[top]

Contains name services UNIX group cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable

is-propagation-enabled		boolean optional	Is Propagation Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-cache-unix-user-settings-info**

[top]

Contains name services UNIX users cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Cache Enabled? Attributes: optional-for-create, modifiable
is-negative-cache-enabled		boolean optional	Is Negative Cache Enabled? Attributes: optional-for-create, modifiable
is-propagation-enabled		boolean optional	Is Propagation Enabled? Attributes: optional-for-create, modifiable
negative-ttl		time-interval optional	Negative Time to Live Attributes: optional-for-create, modifiable
ttl		time-interval optional	Time to Live Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **name-service-unix-group-fileonly-info**

[top]

name-service-unix-group-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	If 'true', the unix-groups configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable

Element definition: **name-service-unix-user-fileonly-info**

[top]

name-service-unix-user-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	If 'true', the unix-users configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable

Element definition: **namservice-nsswitch-config-info**

[top]

Name Service Switch Configuration Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
nameservice-database		nss-db-type optional	Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Attributes: key, required-for-create, non-modifiable Possible values: • "hosts" - Hosts Database, • "group" - Group Database, • "passwd" - Password Database, • "netgroup" - Netgroup Database, • "namemap" - Name mapping database
			Order of looking up Name Service Switch Sources.Possible values are

nameservice-sources		nss-source-type[] optional	files, dns, ldap or nis Attributes: required-for-create, modifiable Possible values: • "files" - Local File Name System service setup, • "dns" - Domain Name System service setup, • "ldap" - Lightweight Directory Access Protocol service setup, • "nis" - Network Information Service service setup
vserver-name		string optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **nis-binding-detail**

[top]

NIS domain show-bound-debug When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bound-server		string optional	Specifies the hostname/IP address of the NIS server in the domain. Attributes: key, non-creatable, non-modifiable
bound-status		string optional	Specifies the binding status of the NIS server. Attributes: non-creatable, non-modifiable
nis-domain		string optional	Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **nis-domain-show-bound**

[top]

NIS domain show-bound When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bound-servers		ip-address[] optional	Specifies the IP address of one or more bound NIS servers in the domain. Attributes: non-creatable, non-modifiable

nis-domain		string optional	Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **nss-db-type**

[top]

The type of Name Service database Possible values:

- "hosts" - Hosts Database,
- "group" - Group Database,
- "passwd" - Password Database,
- "netgroup" - Netgroup Database,
- "namemap" - Name mapping database

[none]

Element definition: **nss-source-type**

[top]

The type of Name Service source Possible values:

- "files" - Local File Name System service setup,
- "dns" - Domain Name System service setup,
- "ldap" - Lightweight Directory Access Protocol service setup,
- "nis" - Network Information Service service setup

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

[top]

Element definition: **vserver-name**

The name of the Vserver.

[none]

APIs in Category: **ndmp**

ndmp-node-session-info-get-iter
ndmp-node-session-kill
ndmp-node-session-kill-all
ndmp-password-generate
ndmp-vserver-attributes-get-iter
ndmp-vserver-attributes-modify
ndmp-vserver-service-disable
ndmp-vserver-service-enable
ndmp-vserver-session-info-get-iter
ndmp-vserver-session-kill
ndmp-vserver-session-kill-all

This set of APIs allow managing NDMP services

ndmp-node-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

Input Name	Range	Type	Description
desired-attributes		ndmp-node-session-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ndmp-node-session-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndmp-node-session-info[] optional	The list of attributes of ndmp objects.

next-tag		string optional	Tag for the next call. Not present when there are no more ndmp objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

ndmp-node-session-kill

[top]

Kill a NDMP session on a node

Input Name	Range	Type	Description
node-name		string	Name of the Node
session-id	**[0..2^32-1]**	integer	Session Identifier

Errno	Description
EOBJECTNOTFOUND	
EAPIMISSINGARGUMENT	
EINTERNALERROR	
EINVALIDINPUTERROR	

ndmp-node-session-kill-all

[top]

Kill all NDMP sessions on a node

Input Name	Range	Type	Description
node-name		string	Name of the Node

Errno	Description
EOBJECTNOTFOUND	
EAPIMISSINGARGUMENT	
EINTERNALERROR	
EINVALIDINPUTERROR	

ndmp-password-generate

[top]

Generate NDMP password for the given user in a specific Vserver context. The generated NDMP password is based on the actual login password for the user; hence it should be regenerated whenever the actual user password is changed.

Input Name	Range	Type	Description

desired-attributes		ndmp-password-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
user-name		string	The user for which the password is to be generated.

Output Name	Range	Type	Description
attributes		ndmp-password-info	The attributes of the ndmp-password.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EINVALIDQUERY	
EINVALIDPASSWORD	
EOPNOTSUPPORTED	

ndmp-vserver-attributes-get-iter

[top]

Get NDMP attributes for vserver.

Input Name	Range	Type	Description
desired-attributes		ndmp-vserver-attributes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ndmp-vserver-attributes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndmp-vserver-attributes-info[] optional	The list of attributes of ndmp objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ndmp objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	

ndmp-vserver-attributes-modify

[top]

Modify NDMP attributes for vserver.

Input Name	Range	Type	Description
abort-on-disk-error		boolean optional	Enable Abort on Disk Error
authtype		ndmpd-authtypes[] optional	Authentication Type Possible values: • "plaintext" - plaintext authtype, • "challenge" - challenge authtype, • "plaintext_sso" - plaintext_sso authtype
backup-log-enable		boolean optional	Enable Backup Log
data-port-range		string optional	Data Port Range
debug-enable		boolean optional	Enable Debug
debug-filter		string optional	Debug Filter
dump-detailed-stats		boolean optional	Enable Logging of VM Stats for Dump
dump-logical-find		string optional	Enable Logical Find for Dump
enable		boolean optional	Enable NDMP on Vserver
fh-dir-retry-interval	[0..2^32-1]	integer optional	FH Throttle Value for Dir
fh-node-retry-interval	[0..2^32-1]	integer optional	FH Throttle Value for Node
ignore-ctime-enabled		boolean optional	Ignore Ctime
is-secure-control-connection-enabled		boolean optional	Is Secure Control Connection Enabled
offset-map-enable		boolean optional	Enable Offset Map
per-qtree-exclude-enable		boolean optional	Enable per Qtree Exclusion
		netport-	Preferred Interface Role Possible values: • "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients,

preferred-interface-role		role[] optional	• "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
restore-vm-cache-size	**[0..2^32-1]**	integer optional	Restore VM File Cache Size
secondary-debug-filter		string optional	Secondary Debug Filter
tcpnodelay		boolean optional	Enable TCP Nodelay
tcpwinsize	**[0..2^32-1]**	integer optional	TCP Window Size

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

ndmp-vserver-service-disable

[top]

Disable NDMP service on the vserver. Disabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already disabled will not result in any errors.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

ndmp-vserver-service-enable

[top]

Enable NDMP service on the vserver. Enabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already enabled will not result in any errors.

Errno	Description
EINTERNALERROR	

EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

ndmp-vserver-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

Input Name	Range	Type	Description
desired-attributes		ndmp-vserver-session-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ndmp-vserver-session-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndmp-vserver-session-info[] optional	The list of attributes of ndmp objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ndmp objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	

ndmp-vserver-session-kill

[top]

Kill a NDMP session on a vserver

Input Name	Range	Type	Description
session-id		string	Session Identifier

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

ndmp-vserver-session-kill-all

[top]

Kill all NDMP sessions on a vserver

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

Element definition: **ndmp-node-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-addr		string optional	NDMP Client Address Attributes: non-creatable, non-modifiable
client-port	**[0..2^32-1]**	integer optional	NDMP Client Port Attributes: non-creatable, non-modifiable
data-backup-mode		string optional	Data Backup Mode Attributes: non-creatable, non-modifiable
data-bytes-processed	**[0..2^64-1]**	integer optional	Data Bytes Processed Attributes: non-creatable, non-modifiable
data-con-addr		string optional	Data Server Connect Address Attributes: non-creatable, non-modifiable
data-con-addr-		ndmpd-addr-	Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" ,

type		type optional	• "tcp" , • "fc" , • "ipc" , • "tcp_ipv6"
data-con-port	**[0..2^32-1]**	integer optional	Data Server Connect Port Attributes: non-creatable, non-modifiable
data-halt-reason		ndmpd-halt-reason optional	Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
data-operation		ndmpd-data-oper optional	Data Operation Attributes: non-creatable, non-modifiable Possible values: • "noaction" - None, • "backup" - Backup, • "restore" - Restore
data-path		string optional	Data Path Attributes: non-creatable, non-modifiable
data-state		ndmpd-state optional	Data State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
eff-host		ndmpd-host optional	Effective Host Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary, • "partner" - Partner
is-secure-control-connection		boolean optional	Is Secure Control Connection Attributes: non-creatable, non-modifiable
mover-bytes-left-to-read	**[0..2^64-1]**	integer optional	Mover Bytes Left to Read Attributes: non-creatable, non-modifiable
mover-bytes-moved	**[0..2^64-1]**	integer optional	Mover Bytes Moved Attributes: non-creatable, non-modifiable
mover-con-addr		string optional	Mover Connect Address Attributes: non-creatable, non-modifiable
mover-con-addr-type		ndmpd-addr-type optional	Mover Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , • "tcp" , • "fc" , • "ipc" , • "tcp_ipv6"

mover-con-port	**[0..2^32-1]**	integer optional	Mover Connect Port Attributes: non-creatable, non-modifiable
mover-halt-reason		ndmpd-halt-reason optional	Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
mover-mode		ndmpd-mover-mode optional	Mover Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw
mover-pause-reason		ndmpd-pause-reason optional	Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "eom" - End of media, • "eof" - End of file, • "seek" - Seek, • "media_error" - Media Error, • "eow" - End of window
mover-position	**[0..2^64-1]**	integer optional	Mover Position Attributes: non-creatable, non-modifiable
mover-record-num	**[0..2^64-1]**	integer optional	Mover Record Number Attributes: non-creatable, non-modifiable
mover-record-size	**[0..2^64-1]**	integer optional	Mover Record Size Attributes: non-creatable, non-modifiable
mover-seek-position	**[0..2^64-1]**	integer optional	Mover Seek Position Attributes: non-creatable, non-modifiable
mover-setrecordsize-flag		boolean optional	Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable
mover-setwindow-flag		boolean optional	Mover SetWindow Flag Attributes: non-creatable, non-modifiable
mover-state		ndmpd-state optional	Mover State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
mover-window-length	**[0..2^64-1]**	integer optional	Mover Window Length Attributes: non-creatable, non-modifiable
mover-window-offset	**[0..2^64-1]**	integer optional	Mover Window Offset Attributes: non-creatable, non-modifiable
ndmp-version	**[0..2^32-1]**	integer	NDMP Version Attributes: non-creatable, non-

		optional	modifiable
node-name		node-name optional	Name of the Node Attributes: key, non-creatable, non-modifiable
session-authorized		boolean optional	Session Authorized Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	Session Identifier Attributes: key, non-creatable, non-modifiable
source-addr		string optional	NDMP Source Address Attributes: non-creatable, non-modifiable
spt-device-id		string optional	SCSI Device ID Attributes: non-creatable, non-modifiable
spt-ha	**[-2^31..2^31-1]**	integer optional	SCSI Host Adapter Attributes: non-creatable, non-modifiable
spt-scsi-id	**[-2^31..2^31-1]**	integer optional	SCSI Target ID Attributes: non-creatable, non-modifiable
spt-scsi-lun	**[-2^31..2^31-1]**	integer optional	SCSI LUN ID Attributes: non-creatable, non-modifiable
tape-device		string optional	Tape Device Attributes: non-creatable, non-modifiable
tape-mode		ndmpd-mover-mode optional	Tape Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw

Element definition: **ndmp-password-info**

[top]

Information about generate password When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
password		string optional	The generated NDMP password for the given user. The command fails if such a user does not exist in the Vserver context. Attributes: non-creatable, non-modifiable
user-name		string optional	The user for which the password is to be generated. Attributes: key, non-creatable, non-modifiable
vserver-name		string optional	The Vserver on which the user password is to be generated for the given user. Attributes: key, non-creatable, non-modifiable

Element definition: **ndmp-vserver-attributes-info**

[top]

NDMP vserver attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
abort-on-disk-error		boolean optional	Enable Abort on Disk Error Attributes: non-creatable, modifiable
authtype		ndmpd-authtypes[] optional	Authentication Type Attributes: non-creatable, modifiable Possible values: • "plaintext" - plaintext authtype, • "challenge" - challenge authtype, • "plaintext_sso" - plaintext_sso authtype
backup-log-enable		boolean optional	Enable Backup Log Attributes: non-creatable, modifiable
data-port-range		string optional	Data Port Range Attributes: non-creatable, modifiable
debug-enable		boolean optional	Enable Debug Attributes: non-creatable, modifiable
debug-filter		string optional	Debug Filter Attributes: non-creatable, modifiable
dump-detailed-stats		boolean optional	Enable Logging of VM Stats for Dump Attributes: non-creatable, modifiable
dump-logical-find		string optional	Enable Logical Find for Dump Attributes: non-creatable, modifiable
enable		boolean optional	Enable NDMP on Vserver Attributes: non-creatable, modifiable
fh-dir-retry-interval	**[0..2^32-1]**	integer optional	FH Throttle Value for Dir Attributes: non-creatable, modifiable
fh-node-retry-interval	**[0..2^32-1]**	integer optional	FH Throttle Value for Node Attributes: non-creatable, modifiable
ignore-ctime-enabled		boolean optional	Ignore Ctime Attributes: non-creatable, modifiable
is-secure-control-connection-enabled		boolean optional	Is Secure Control Connection Enabled Attributes: non-creatable, modifiable
maxversion	**[0..2^32-1]**	integer optional	NDMP Version Attributes: non-creatable, non-modifiable
offset-map-enable		boolean optional	Enable Offset Map Attributes: non-creatable, modifiable
per-qtree-exclude-enable		boolean optional	Enable per Qtree Exclusion Attributes: non-creatable, modifiable
			Preferred Interface Role Attributes: non-creatable, modifiable Possible values: • "undef" - No defined role,

preferred-interface-role		netport-role[] optional	"cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
restore-vm-cache-size	**[0..2^32-1]**	integer optional	Restore VM File Cache Size Attributes: non-creatable, modifiable
secondary-debug-filter		string optional	Secondary Debug Filter Attributes: non-creatable, modifiable
tcpnodelay		boolean optional	Enable TCP Nodelay Attributes: non-creatable, modifiable
tcpwinsize	**[0..2^32-1]**	integer optional	TCP Window Size Attributes: non-creatable, modifiable
vserver-name		vserver-name-data-admin optional	Name of the Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ndmp-vserver-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-addr		string optional	NDMP Client Address Attributes: non-creatable, non-modifiable
client-port	**[0..2^32-1]**	integer optional	NDMP Client Port Attributes: non-creatable, non-modifiable
data-backup-mode		string optional	Data Backup Mode Attributes: non-creatable, non-modifiable
data-bytes-processed	**[0..2^64-1]**	integer optional	Data Bytes Processed Attributes: non-creatable, non-modifiable
data-con-addr		string optional	Data Server Connect Address Attributes: non-creatable, non-modifiable
data-con-addr-type		ndmpd-addr-type optional	Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , • "tcp" , • "fc" , • "ipc" ,

			• "tcp_ipv6"
data-con-port	**[0..2^32-1]**	integer optional	Data Server Connect Port Attributes: non-creatable, non-modifiable
data-halt-reason		ndmpd-halt-reason optional	Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
data-operation		ndmpd-data-oper optional	Data Operation Attributes: non-creatable, non-modifiable Possible values: • "noaction" - None, • "backup" - Backup, • "restore" - Restore
data-path		string optional	Data Path Attributes: non-creatable, non-modifiable
data-state		ndmpd-state optional	Data State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
eff-host		ndmpd-host optional	Effective Host Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary, • "partner" - Partner
is-secure-control-connection		boolean optional	Is Secure Control Connection Attributes: non-creatable, non-modifiable
mover-bytes-left-to-read	**[0..2^64-1]**	integer optional	Mover Bytes Left to Read Attributes: non-creatable, non-modifiable
mover-bytes-moved	**[0..2^64-1]**	integer optional	Mover Bytes Moved Attributes: non-creatable, non-modifiable
mover-con-addr		string optional	Mover Connect Address Attributes: non-creatable, non-modifiable
mover-con-addr-type		ndmpd-addr-type optional	Mover Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , • "tcp" , • "fc" , • "ipc" , • "tcp_ipv6"
mover-con-port	**[0..2^32-1]**	integer optional	Mover Connect Port Attributes: non-creatable, non-modifiable

mover-halt-reason		ndmpd-halt-reason optional	Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "connection_closed" - Connection Closed, • "aborted" - Aborted, • "internal_error" - Internal Error, • "connect_error" - Connect Error, • "media_error" - Media Error, • "successful" - Successful
mover-mode		ndmpd-mover-mode optional	Mover Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw
mover-pause-reason		ndmpd-pause-reason optional	Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values: • "na" - Not Available, • "eom" - End of media, • "eof" - End of file, • "seek" - Seek, • "media_error" - Media Error, • "eow" - End of window
mover-position	**[0..2^64-1]**	integer optional	Mover Position Attributes: non-creatable, non-modifiable
mover-record-num	**[0..2^64-1]**	integer optional	Mover Record Number Attributes: non-creatable, non-modifiable
mover-record-size	**[0..2^64-1]**	integer optional	Mover Record Size Attributes: non-creatable, non-modifiable
mover-seek-position	**[0..2^64-1]**	integer optional	Mover Seek Position Attributes: non-creatable, non-modifiable
mover-setrecordsize-flag		boolean optional	Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable
mover-setwindow-flag		boolean optional	Mover SetWindow Flag Attributes: non-creatable, non-modifiable
mover-state		ndmpd-state optional	Mover State Attributes: non-creatable, non-modifiable Possible values: • "idle" - Idle, • "listen" - Listen, • "active" - Active, • "paused" - Paused, • "connected" - Connected, • "halted" - Halted
mover-window-length	**[0..2^64-1]**	integer optional	Mover Window Length Attributes: non-creatable, non-modifiable
mover-window-offset	**[0..2^64-1]**	integer optional	Mover Window Offset Attributes: non-creatable, non-modifiable
ndmp-version	**[0..2^32-1]**	integer optional	NDMP Version Attributes: non-creatable, non-modifiable
node-name		node-name optional	Name of the Node Attributes: non-creatable, non-modifiable

session-authorized		boolean optional	Session Authorized Attributes: non-creatable, non-modifiable
session-id		string optional	Session Identifier Attributes: key, non-creatable, non-modifiable
source-addr		string optional	NDMP Source Address Attributes: non-creatable, non-modifiable
spt-device-id		string optional	SCSI Device ID Attributes: non-creatable, non-modifiable
spt-ha	**[-2^31..2^31-1]**	integer optional	SCSI Host Adapter Attributes: non-creatable, non-modifiable
spt-scsi-id	**[-2^31..2^31-1]**	integer optional	SCSI Target ID Attributes: non-creatable, non-modifiable
spt-scsi-lun	**[-2^31..2^31-1]**	integer optional	SCSI LUN ID Attributes: non-creatable, non-modifiable
tape-device		string optional	Tape Device Attributes: non-creatable, non-modifiable
tape-mode		ndmpd-mover-mode optional	Tape Mode Attributes: non-creatable, non-modifiable Possible values: • "read" - Read, • "write" - Write, • "noaction" - Data, • "raw" - Raw
vserver-name		vserver-name optional	Name of the Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ndmpd-authtypes**

[top]

NDMP Authentication types Possible values:

- "plaintext" - plaintext authtype,
- "challenge" - challenge authtype,
- "plaintext_sso" - plaintext_sso authtype

[none]

Element definition: **netport-role**

[top]

undef|cluster|data|node-mgmt|intercluster|cluster-mgmt Possible values:

- "undef" - No defined role,
- "cluster" - Used for communication using the private cluster network,
- "data" - Used for communicating with file service clients,
- "node_mgmt" - Used by administrators to configure the node,
- "intercluster" - Used for communication with a different cluster,
- "cluster_mgmt" - Used by administrators to configure the cluster

[none]

Element definition: **ndmpd-addr-type**

[top]

address type Possible values:

- "local" ,
- "tcp" ,
- "fc" ,
- "ipc" ,
- "tcp_ipv6"

[none]

Element definition: **ndmpd-data-oper**

[top]

data operation Possible values:

- "noaction" - None,
- "backup" - Backup,
- "restore" - Restore

[none]

Element definition: **ndmpd-halt-reason**

[top]

halt reason Possible values:

- "na" - Not Available,
- "connection_closed" - Connection Closed,
- "aborted" - Aborted,
- "internal_error" - Internal Error,
- "connect_error" - Connect Error,
- "media_error" - Media Error,
- "successful" - Successful

[none]

Element definition: **ndmpd-host**

[top]

host type Possible values:

- "primary" - Primary,
- "partner" - Partner

[none]

Element definition: **ndmpd-mover-mode**

[top]

mover mode Possible values:

- "read" - Read,
- "write" - Write,
- "noaction" - Data,
- "raw" - Raw

[none]

Element definition: **ndmpd-pause-reason**

[top]

pause reason Possible values:

- "na" - Not Available,
- "eom" - End of media,
- "eof" - End of file,
- "seek" - Seek,
- "media_error" - Media Error,
- "eow" - End of window

[none]

Element definition: **ndmpd-state**

[top]

component state Possible values:

- "idle" - Idle,
- "listen" - Listen,
- "active" - Active,
- "paused" - Paused,
- "connected" - Connected,
- "halted" - Halted

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

APIs in Category: **net**

data-lif-capacity
data-lif-capacity-details
net-active-routes-get
net-active-routes-get-iter
net-arp-active-entry-destroy
net-arp-active-entry-get
net-arp-active-entry-get-iter
net-arp-create
net-arp-destroy
net-arp-get
net-arp-get-iter
net-bgp-config-create
net-bgp-config-destroy
net-bgp-config-get
net-bgp-config-get-iter
net-bgp-config-modify
net-bgp-defaults-get
net-bgp-defaults-modify
net-bgp-peer-group-create
net-bgp-peer-group-destroy
net-bgp-peer-group-get
net-bgp-peer-group-get-iter
net-bgp-peer-group-modify
net-bgp-peer-group-rename
net-bgp-vserver-status-get
net-bgp-vserver-status-get-iter
net-check-failover
net-cluster-ping
net-cluster-ping6
net-connections-receive-window-size-get
net-connections-receive-window-size-get-iter
net-connections-receive-window-size-modify
net-ddns-get
net-ddns-get-iter
net-ddns-modify
net-device-discovery-get-iter
net-dns-check-get-iter
net-dns-create

The net APIs provide network management from ONTAP.

net-dns-get
net-dns-get-iter
net-dns-modify
net-external-route-table-create
net-external-route-table-delete
net-failover-group-add-targets
net-failover-group-create
net-failover-group-destroy
net-failover-group-get
net-failover-group-get-iter
net-failover-group-modify
net-failover-group-remove-targets
net-failover-group-rename
net-firewall-config-get
net-firewall-config-get-iter
net-firewall-config-modify
net-firewall-config-modify-iter
net-firewall-policy-create
net-firewall-policy-destroy
net-firewall-policy-get
net-firewall-policy-get-iter
net-firewall-policy-modify
net-hosts-create
net-hosts-destroy
net-hosts-get
net-hosts-get-iter
net-hosts-modify
net-interface-create
net-interface-delete
net-interface-get
net-interface-get-iter
net-interface-migrate
net-interface-modify
net-interface-modify-iter
net-interface-rename
net-interface-revert
net-interface-service-get
net-interface-service-get-iter
net-interface-service-policy-add-service
net-interface-service-policy-clone
net-interface-service-policy-create

net-interface-service-policy-destroy
net-interface-service-policy-entry-get
net-interface-service-policy-entry-get-iter
net-interface-service-policy-get
net-interface-service-policy-get-iter
net-interface-service-policy-modify-service
net-interface-service-policy-remove-service
net-interface-service-policy-rename
net-interface-service-policy-restore-defaults
net-ipspaces-create
net-ipspaces-destroy
net-ipspaces-get
net-ipspaces-get-iter
net-ipspaces-rename
net-ndp-active-neighbor-destroy
net-ndp-active-neighbor-get
net-ndp-active-neighbor-get-iter
net-ndp-default-router-delete-all
net-ndp-default-router-get
net-ndp-default-router-get-iter
net-ndp-neighbor-create
net-ndp-neighbor-destroy
net-ndp-neighbor-get
net-ndp-neighbor-get-iter
net-ndp-prefix-delete-all
net-ndp-prefix-get
net-ndp-prefix-get-iter
net-options-get
net-options-hypervisor-uplink-monitoring-get
net-options-hypervisor-uplink-monitoring-modify
net-options-modify
net-placement-cache-delete
net-placement-cache-get-iter
net-placement-discover
net-port-broadcast-domain-add-ports
net-port-broadcast-

domain-create
net-port-broadcast-domain-destroy
net-port-broadcast-domain-get
net-port-broadcast-domain-get-iter
net-port-broadcast-domain-merge
net-port-broadcast-domain-modify
net-port-broadcast-domain-remove-ports
net-port-broadcast-domain-rename
net-port-broadcast-domain-split
net-port-delete
net-port-get
net-port-get-iter
net-port-health-monitor-disable
net-port-health-monitor-enable
net-port-health-monitor-get
net-port-health-monitor-get-iter
net-port-ifgrp-add-port
net-port-ifgrp-create
net-port-ifgrp-destroy
net-port-ifgrp-get
net-port-ifgrp-remove-port
net-port-modify
net-port-modify-iter
net-qos-marking-get-iter
net-qos-marking-modify
net-routes-create
net-routes-destroy
net-routes-get
net-routes-get-iter
net-routes-lifs-get
net-routes-lifs-get-iter
net-san-lif-placement-get
net-subnet-add-ranges
net-subnet-create
net-subnet-destroy
net-subnet-get
net-subnet-get-iter
net-subnet-modify
net-subnet-remove-ranges
net-subnet-rename
net-subnets-for-

broadcast-domain-get
net-subnets-for-broadcast-domain-get-iter
net-test-path
net-traceroute6
net-tuning-icmp-get
net-tuning-icmp-modify
net-tuning-icmp6-get
net-tuning-icmp6-modify
net-tuning-tcp-get
net-tuning-tcp-modify
net-vip-port-create
net-vip-port-destroy
net-vip-port-get
net-vip-port-get-iter
net-vlan-create
net-vlan-delete
net-vlan-get
net-vlan-get-iter

data-lif-capacity

[top]

Get the IP data LIF capacity of the cluster.

Input Name	Range	Type	Description
desired-attributes		data-lif-capacity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		data-lif-capacity-info	The attributes of the net.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

data-lif-capacity-details

[top]

Get the IP data LIF capacity details for each node.

Input Name	Range	Type	Description
		data-lif-capacity-	Specify the attributes that should be returned. If not present, all

desired-attributes		details-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		data-lif-capacity-details-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		data-lif-capacity-details-info[] optional	The list of attributes of net objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-active-routes-get

[top]

Get the attributes of the network route active-entry.

Input Name	Range	Type	Description
address-type		ipaddresstype	Specify the address type. Possible values are ipv4 and ipv6. Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
desired-attributes		net-active-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		string	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		string	Specify the gateway. Example: 10.7.125.1, fd20:13::1
interface		string	Specify the route's interface.
node-name		node-name	Specify the name of the node.

route-interface-address		string	Specify the Route Interface Address.
subnet-group		ip-and-mask	Specify the name of the subnet group.

Output Name	Range	Type	Description
attributes		net-active-routes-info	The attributes of the network route active-entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-active-routes-get-iter

[top]

Iterate over a list of network route active-entry objects.

Input Name	Range	Type	Description
desired-attributes		net-active-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-active-routes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network route active-entry object. All network route active-entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-active-routes-info[] optional	The list of attributes of network route active-entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network route active-entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-arp-active-entry-destroy

[top]

Delete dynamically learned ARP entries.

Input Name	Range	Type	Description
node-name		node-name	Node from which to remove the ARP active entry.
port		string	Port from which to remove the ARP active entry.
remotehost		string	Remote IP address which will be removed from the ARP active entry table.
subnet-group-name		ip-and-mask	Subnet group from which to remove the ARP active entry.
vserver-name		vif-owner-name	System or Admin Vserver from which to remove the ARP active entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-active-entry-get

[top]

Get the attributes of the network ARP active entry which is present in network stack of the node.

Input Name	Range	Type	Description
desired-attributes		net-arp-operational-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	Node from which to get the ARP active entry.
port		string	Port name for which to get the ARP active entry.
remote-host		string	Remote IP address for which to get the ARP active entry.
subnet-group		ip-and-mask	Subnet group from which to get the ARP active entry.
vserver		vif-owner-name	System or Admin Vserver from which to get the ARP active entry.

Output Name	Range	Type	Description
attributes		net-arp-operational-info	The attributes of the network ARP active-entry
ipspace		string	IPspace from which to get the ARP active entry.
mac-address		string	MAC address of remote host.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-active-entry-get-iter

[top]

Iterate over a list of network ARP active entries.

Input Name	Range	Type	Description
desired-attributes		net-arp-operational-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-arp-operational-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ARP active-entry object. All network ARP active-entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-arp-operational-info[] optional	The list of attributes of network ARP active-entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ARP active-entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-arp-create

[top]

Create a new network ARP entry.

Input Name	Range	Type	Description
mac		mac-address	MAC address of remote host.
remotehost		ip-address	Remote IP address which is to be added as the ARP entry.
vserver		vserver-name	Vserver in which to create the ARP entry.

Errno	Description
EINTERNALERROR	

net-arp-destroy

[top]

Delete an existing network ARP entry.

Input Name	Range	Type	Description
remotehost		ip-address	Remote IP address which is to be deleted from the ARP entries.
vserver		vserver-name	Vserver in which to delete the ARP entry.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-get

[top]

Get the attributes of the network ARP entry which is present in Vserver.

Input Name	Range	Type	Description
desired-attributes		net-arp-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
remotehost		ip-address	Remote IP address for which to get the ARP entry.
vserver		vserver-name	Vserver from which to get the ARP entry.

Output Name	Range	Type	Description
attributes		net-arp-info	The attributes of the network ARP
ipspace		string optional	IPspace from which to get the ARP entry.
mac		mac-address	MAC address of remote host.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-arp-get-iter

[top]

Iterate over a list of network ARP entries.

Input Name	Range	Type	Description
desired-attributes		net-arp-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
			A query that specifies which objects to return. A query could be

query		net-arp-info optional	specified on any number of attributes in the network ARP object. All network ARP objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-arp-info[] optional	The list of attributes of network ARP objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ARP objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-bgp-config-create

[top]

Create the BGP configuration for a given node.

Input Name	Range	Type	Description
asn	**[0..2^32-1]**	integer	The autonomous system number to which this node belongs.
hold-time	**[0..2^32-1]**	integer	The hold time (seconds) value to use for this node when negotiating a connection with the peer.
node		node-name	The node name that the BGP configuration belongs to.
return-record		boolean optional	If set to true, returns the net-bgp-config on successful creation. Default: false
router-id		ip-address	The router id (IPv4) to use for this node when negotiating a connection with the peer.

Output Name	Range	Type	Description
result		net-bgp-config-info optional	The net-bgp-config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
E_NO_VALID_ROUTERID	
E_BGP_DEFAULTS_NOT_POPULATED	
E_VIP_NOT_SUPPORTED	

net-bgp-config-destroy

[top]

Delete the BGP configuration on a given node.

Input Name	Range	Type	Description
node		node-name	The node name that the BGP configuration belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-config-get

[top]

Get the BGP configuration for a node.

Input Name	Range	Type	Description
desired-attributes		net-bgp-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The node name that the BGP configuration belongs to.

Output Name	Range	Type	Description
attributes		net-bgp-config-info	The attributes of the net-bgp-config.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-config-get-iter

[top]

Iterate over the BGP configuration for each node.

Input Name	Range	Type	Description
desired-attributes		net-bgp-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		net-bgp-	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-config object.

query		config-info optional	All net-bgp-config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-bgp-config-info[] optional	The list of attributes of net-bgp-config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-bgp-config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-bgp-config-modify

[top]

Modify BGP configuration for a given node.

Input Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The autonomous system number to which this node belongs.
hold-time	**[0..2^32-1]**	integer optional	The hold time (seconds) value to use for this node when negotiating a connection with the peer.
node		node-name	The node name that the BGP configuration belongs to.
router-id		ip-address optional	The router id (IPv4) to use for this node when negotiating a connection with the peer.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-defaults-get

[top]

Get the cluster wide default BGP configuration.

Input Name	Range	Type	Description
desired-attributes		net-bgp-defaults-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be

		optional	returned.

Output Name	Range	Type	Description
attributes		net-bgp-defaults-info	The attributes of the net-bgp-defaults.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-defaults-modify

[top]

Modify the cluster wide default BGP configuration.

Input Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The cluster wide default value for autonomous system number.
hold-time	**[0..2^32-1]**	integer optional	The cluster wide default value for routing information hold time (seconds).

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

net-bgp-peer-group-create

[top]

Create a new BGP peer group.

Input Name	Range	Type	Description
bgp-lif		lif-name	The LIF associated with this peer group.
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-address		ip-address	The remote peer router address.
peer-asn	**[0..2^32-1]**	integer	The remote peer router Autonomous number. The default value for this paramenter is '0'.
peer-group		string	The name of the peer group.
route-preference	**[0..2^32-1]**	integer	The route preference value associated with this peer group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
E_VIFMGR_BGP_NOT_CONFIGURED	
E_VIFMGR_VSERVER_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	

net-bgp-peer-group-destroy

[top]

Destroy an existing BGP peer group.

Input Name	Range	Type	Description
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-group		string	The name of the peer group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	

net-bgp-peer-group-get

[top]

Get the attributes of the peer group.

Input Name	Range	Type	Description
desired-attributes		net-bgp-peer-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-group		string	The name of the peer group.

Output Name	Range	Type	Description
attributes		net-bgp-peer-group-info	The attributes of the net-bgp-peer-group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EOBJECTNOTFOUND	
EINTERNALERROR	

net-bgp-peer-group-get-iter

[top]

Iterate over a list of BGP peer groups

Input Name	Range	Type	Description

desired-attributes		net-bgp-peer-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-bgp-peer-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-peer-group object. All net-bgp-peer-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-bgp-peer-group-info[] optional	The list of attributes of net-bgp-peer-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-bgp-peer-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	

net-bgp-peer-group-modify

[top]

Modify the attributes of the BGP peer group.

Input Name	Range	Type	Description
ipspace		string	Name of the IPspace that the peer group belongs to.
peer-address		ip-address	The remote peer router address.
peer-group		string	The name of the peer group.

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINTERNALERROR	
E_VIFMGR_VSERVER_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	

net-bgp-peer-group-rename

[top]

Rename a BGP peer group.

Input Name	Range	Type	Description
ipspace		string	Name of the IPspace that the peer group belongs to.
new-name		string	New name for the BPG peer group
peer-group		string	The name of the peer group.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_PEER_GROUP_NOT_FOUND	
E_VIFMGR_PEER_GROUP_RENAME_ENTRY_EXISTS	

net-bgp-vserver-status-get

[top]

Get BGP status of a Vserver on a given node.

Input Name	Range	Type	Description
desired-attributes		bgp-vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
vserver		vserver-name	Vserver

Output Name	Range	Type	Description
attributes		bgp-vserver-info	The attributes of the net-bgp-vserver-status.

Errno	Description
EOBJECTNOTFOUND	

net-bgp-vserver-status-get-iter

[top]

Iterate over BGP Vservers status.

Input Name	Range	Type	Description
		bgp-	Specify the attributes that should be returned. If not present, all

desired-attributes		vserver-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		bgp-vserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-vserver-status object. All net-bgp-vserver-status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		bgp-vserver-info[] optional	The list of attributes of net-bgp-vserver-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-bgp-vserver-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	

net-check-failover

[top]

Get the list of LIFs at risk.

Input Name	Range	Type	Description
desired-attributes		lif-capacity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		lif-capacity-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned.
source-nodes		filer-id[]	This is a list of nodes whose LIFs should be checked. LIFs considered at risk will be currently hosted on one of these nodes. This list should contain at most half the nodes in the cluster.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		lif-capacity-	The list of attributes of net objects.

list		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more net objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
E_NET_UI_VIFMGR_NOT_INITIALIZED	

net-cluster-ping

[top]

Ping an IP address to verify whether the interface is alive

Input Name	Range	Type	Description
destination-address		string	Specifies IPv4 address of the destination.
interface		string optional	Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is mutually exclusive with element node.
interface-owner		string optional	Specifies the name of the owning vserver of the logical interface (LIF).
node		string optional	Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif.
retry-count		integer optional	Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20
services		lif-service-name[] optional	Specifies the list of service names to ping from the perspective of a specific application
use-source-port		boolean optional	Specifies whether to send out ping via the port which is hosting the lif. Only applicable when lif parameter when specified. Default: false
wait		integer optional	Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1
wait-response		integer optional	Specifies the maximum number of milliseconds to wait for each ping response. Default: 10000 (10 secs)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_EHOSTDOWN	
EHOSTNOTFOUND	

net-cluster-ping6

[top]

Ping an IPv6 address to verify whether the interface is alive

Input Name	Range	Type	Description
buffer-size		integer optional	Specifies the socket buffer size in bytes.
destination-address		string	Specifies IPv6 address of the destination.
disable-fragmentation		boolean optional	Disallow fragmentation of the outgoing packets.
disable-fragmentation-all		boolean optional	Fragment packets to fit into the minimum IPv6 maximum transmission unit size for both unicast and multicast addresses.
disable-fragmentation-unicast		boolean optional	Fragment packets to fit into the minimum IPv6 maximum transmission unit size for unicast addresses.
interface		string optional	Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is optional with element node.
interface-owner		string optional	Specifies the name of logical interface (LIF) owner or vserver. It may be a node or Vserver name.
interval		integer optional	Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1
node		string optional	Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif.
packet-size		integer optional	Specifies the packet size in bytes.
retry-count		integer optional	Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20
use-source-port		boolean optional	Specifies whether to send out ping6 via the port which is hosting the lif. Only applicable when lif parameter is specified. Default: false

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_EHOSTDOWN	
ENETUNREACH	
EHOSTNOTFOUND	
EINVALIDHOST	
EHOST_BADCONFIGURE	

net-connections-receive-window-size-get

[top]

Get the receive buffer size properties of a service

Input Name	Range	Type	Description
desired-attributes		receive-buffer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

network		network-type	The network topology classification Possible values: • "wan" , • "lan" , • "undefined"
protocol		protocol-layer4	The network layer 4 protocol type Possible values: • "udp" - UDP, • "tcp" - TCP, • "na" - not_available
service		stream-protocol-service	The stream protocol connection classification Possible values: • "mount" - Mount stream protocol, • "nfs" - NFS stream protocol, • "nfs_v3" - NFS version 3 stream protocol, • "nlm_v4" - Network lock manager stream protocol, • "sm" - Session Manager stream protocol, • "ftp_ctrl" - FTP control stream protocol, • "ftp_data" - FTP data stream protocol, • "http_1_0" - HTTP version 1 stream protocol, • "http_1_1" - HTTP version 1.1 stream protocol, • "iscsi" - ISCSI stream protocol, • "cifs_srv" - CIFS server stream protocol, • "cifs_nam" - CIFS name server stream protocol, • "loopback" - loopback stream protocol, • "rf" - RC stream protocol, • "rawscp" - Raw secure copy stream protocol, • "discard" - Discard stream protocol, • "port_map" - Port map stream protocol, • "pass_thru" - Passthru stream protocol, • "rclopcp" - Rc connection stream protocol, • "nfs_v4" - NFS version 4 stream protocol, • "fcache" - 7 Mode FlexCache stream protocol, • "ctlopcp" - Ct connection stream protocol, • "rquota" - Rquota stream protocol, • "cifs_msrpc" - CIFS MsRpc stream protocol, • "http" - HTTP stream protocol, • "unknown" - unknown protocol, • "s3" - S3 stream protocol, • "sdapi" - SDAPI stream protocol

Output Name	Range	Type	Description
attributes		receive-buffer	The attributes of the net-connections-receive-window-size.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-connections-receive-window-size-get-iter

[top]

Iterate over connections returning receive buffer size properties

Input Name	Range	Type	Description
desired-attributes		receive-buffer optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		receive-buffer optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-connections-receive-window-size object. All net-connections-receive-window-size objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		receive-buffer[] optional	The list of attributes of net-connections-receive-window-size objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-connections-receive-window-size objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-connections-receive-window-size-modify

[top]

Modify receive buffer size properties

Input Name	Range	Type	Description
network		network-type	The network topology classification Possible values: • "wan" , • "lan" , • "undefined"
protocol		protocol-layer4	The network layer 4 protocol type Possible values: • "udp" - UDP, • "tcp" - TCP, • "na" - not_available
receive-auto-tune		boolean optional	If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases.
receive-buffer	**[256..7168]**	integer optional	If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases.
			The stream protocol connection classification Possible values:

service		stream-protocol-service	• "mount" - Mount stream protocol, • "nfs" - NFS stream protocol, • "nfs_v3" - NFS version 3 stream protocol, • "nlm_v4" - Network lock manager stream protocol, • "sm" - Session Manager stream protocol, • "ftp_ctrl" - FTP control stream protocol, • "ftp_data" - FTP data stream protocol, • "http_1_0" - HTTP version 1 stream protocol, • "http_1_1" - HTTP version 1.1 stream protocol, • "iscsi" - ISCSI stream protocol, • "cifs_srv" - CIFS server stream protocol, • "cifs_nam" - CIFS name server stream protocol, • "loopback" - loopback stream protocol, • "rf" - RC stream protocol, • "rawscp" - Raw secure copy stream protocol, • "discard" - Discard stream protocol, • "port_map" - Port map stream protocol, • "pass_thru" - Passthru stream protocol, • "rclopcp" - Rc connection stream protocol, • "nfs_v4" - NFS version 4 stream protocol, • "fcache" - 7 Mode FlexCache stream protocol, • "ctlopcp" - Ct connection stream protocol, • "rquota" - Rquota stream protocol, • "cifs_msrpc" - CIFS MsRpc stream protocol, • "http" - HTTP stream protocol, • "unknown" - unknown protocol, • "s3" - S3 stream protocol, • "sdapi" - SDAPI stream protocol

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ddns-get

[top]

Get the Dynamic DNS Update configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		net-ddns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		net-ddns-info	The attributes of the ddns.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ddns-get-iter

[top]

Iterate through Dynamic DNS Update configurations of the cluster

Input Name	Range	Type	Description
desired-attributes		net-ddns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ddns-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ddns object. All ddns objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ddns-info[] optional	The list of attributes of ddns objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ddns objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ddns-modify

[top]

Modify the Dynamic DNS Update configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
domain-name		string optional	Vserver FQDN to Be Used for DNS Updates
is-enabled		boolean optional	Is Dynamic DNS Update Enabled?
skip-fqdn-validation		boolean optional	Specifies if the Vserver FQDN name validation is skipped.
ttl		time-interval optional	TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h.
use-secure		boolean optional	Use Secure Dynamic DNS Updates?

Errno	Description
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-device-discovery-get-iter

[top]

Iterate over a list of network device discovery objects found by a discovery protocol such as CDP or LLDP.

Input Name	Range	Type	Description
desired-attributes		net-device-discovery-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-device-discovery-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-device-discovery object. All net-device-discovery objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-device-discovery-info[] optional	The list of attributes of net-device-discovery objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-device-discovery objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-dns-check-get-iter

[top]

Display the status of a list of name servers

Input Name	Range	Type	Description
			Specify the attributes that should be returned. If not present, all

desired-attributes		dns-status optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		dns-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dns-check object. All dns-check objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		dns-status[] optional	The list of attributes of dns-check objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dns-check objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
E_DNS_VSERVER_OPSTATE_STOPPED	

net-dns-create

[top]

Creates DNS configuration for a Vserver

Input Name	Range	Type	Description
attempts	**[1..4]**	integer optional	Max number of trials before giving up and returning error. Default is one.
dns-state		enable optional	Enable/Disable DNS. Possible values are 'enabled' or 'disabled'.
domains		string[]	List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to.
is-tld-query-enabled		boolean optional	Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true.
name-servers		ip-address[]	IPv4 addresses of name servers such as '123.123.123.123'.
require-packet-query-match		boolean optional	Require query sections of query and response packets to match.
require-source-address-match		boolean optional	Require source IP address of reply to match the name-server address.
return-record		boolean optional	If set to true, returns the dns on successful creation. Default: false

skip-config-validation		boolean optional	Skip Configuration Validation
timeout	**[1..5]**	integer optional	Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds.

Output Name	Range	Type	Description
result		net-dns-info optional	The dns created (keys or the entire object if requested)

Errno	Description
EDUPLICATEENTRY	
E_DNS_CONFIG_CHECK_FAILURE	
E_DNS_STATE_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-dns-get

[top]

Get the DNS configuration of the Vserver

Input Name	Range	Type	Description
desired-attributes		net-dns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		net-dns-info	The attributes of the dns.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-dns-get-iter

[top]

Iterate through DNS configurations of the cluster

Input Name	Range	Type	Description
desired-attributes		net-dns-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		net-dns-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the dns object. All dns objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-dns-info[] optional	The list of attributes of dns objects.
next-tag		string optional	Tag for the next call. Not present when there are no more dns objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-dns-modify

[top]

Modify the DNS configuration of the specified Vserver. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
attempts	**[1..4]**	integer optional	Max number of trials before giving up and returning error. Default is one.
dns-state		enable optional	Enable/Disable DNS. Possible values are 'enabled' or 'disabled'.
domains		string[] optional	List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to.
is-tld-query-enabled		boolean optional	Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true.
name-servers		ip-address[] optional	IPv4 addresses of name servers such as '123.123.123.123'.
require-packet-query-match		boolean optional	Require query sections of query and response packets to match.
require-source-address-match		boolean optional	Require source IP address of reply to match the name-server address.
skip-config-validation		boolean optional	Skip Configuration Validation
timeout	**[1..5]**	integer optional	Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds.

Errno	Description
E_DNS_CONFIG_CHECK_FAILURE	
E_DNS_STATE_DISABLED_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	

Errno	Description
EVSERVER_OPERATION_NOT_PERMITTED	

net-external-route-table-create

[top]

Create a new external routing table

Input Name	Range	Type	Description
return-record		boolean optional	If set to true, returns the network cloud routing-table on successful creation. Default: false
route-table-id		string	Route Table ID

Output Name	Range	Type	Description
result		external-route-table-info optional	The network cloud routing-table created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

net-external-route-table-delete

[top]

Delete an existing external routing table

Input Name	Range	Type	Description
route-table-id		string	Route Table ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-failover-group-add-targets

[top]

Add failover targets to a failover group.

Input Name	Range	Type	Description
failover-group		string	The failover group.
targets		net-qualified-port-name[]	The failover targets to add to the failover group. Format: node-name:port-name
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description

EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

net-failover-group-create

[top]

Create a failover group. Failover groups are used to define a set of possible failover targets for LIFs on one or more nodes.

Input Name	Range	Type	Description
failover-group		string	The failover group.
return-record		boolean optional	If set to true, returns the Failover Group on successful creation. Default: false
targets		net-qualified-port-name[]	The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name
vserver		vif-owner-name	The vserver for which the failover group is defined.

Output Name	Range	Type	Description
result		net-failover-group-info optional	The Failover Group created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	

net-failover-group-destroy

[top]

Delete a failover group

Input Name	Range	Type	Description
failover-group		string	The failover group.
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EVSERVERNTFOUND	
EINTERNALERROR	

net-failover-group-get

[top]

Get the attributes of a failover goup.

Input Name	Range	Type	Description
desired-attributes		net-failover-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
failover-group		string	The failover group.

Output Name	Range	Type	Description
attributes		net-failover-group-info	The attributes of the Failover Group.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-failover-group-get-iter

[top]

Iterate over a list of failover group objects.

Input Name	Range	Type	Description
desired-attributes		net-failover-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-failover-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Failover Group object. All Failover Group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-failover-group-info[] optional	The list of attributes of Failover Group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Failover Group objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-failover-group-modify

[top]

Modify a failover group.

Input Name	Range	Type	Description
failover-group		string	The failover group.
targets		net-qualified-port-name[] optional	The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

net-failover-group-remove-targets

[top]

Remove failover targets from a failover group.

Input Name	Range	Type	Description
failover-group		string	The failover group.
targets		net-qualified-port-name[]	The failover targets to remove from the failover group. Format: node-name:port-name

vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

net-failover-group-rename

[top]

Rename a failover group.

Input Name	Range	Type	Description
failover-group		node-name	The failover group.
new-failover-group-name		string	The new name of the failover group.
vserver		vif-owner-name	The vserver for which the failover group is defined.

Errno	Description
EINTERNALERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	

net-firewall-config-get

[top]

Get the attributes of a firewall configuration.

Input Name	Range	Type	Description
desired-attributes		net-firewall-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	Specifies the node on which the firewall configiration is set.

Output Name	Range	Type	Description
attributes		net-firewall-config-info	The attributes of the firewall configuration.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-config-get-iter

[top]

Iterate over a list of firewall configuration objects.

Input Name	Range	Type	Description
desired-attributes		net-firewall-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-firewall-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall configuration object. All firewall configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-firewall-config-info[] optional	The list of attributes of firewall configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more firewall configuration objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-config-modify

[top]

Create a new firewall configuration.

Input Name	Range	Type	Description
		boolean	Specifies whether firewall protection is enabled (true) or disabled (false)

is-enabled		optional	for the node's network ports. The default setting is true.
is-logging		boolean optional	This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false.
node-name		node-name	Specifies the node on which the firewall configiration is set.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-config-modify-iter

[top]

Modify the attributes of a firewall configuration or a group of firewall configuration objects.

Input Name	Range	Type	Description
attributes		net-firewall-config-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple firewall configuration objects match a given query. If set to true, the API will continue modifying the next matching firewall configuration even when modification of a previous firewall configuration fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching firewall configuration even when the modification of a previous matching firewall configuration fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		net-firewall-config-info	If modifying a specific firewall configuration, this input element must specify all keys. If modifying firewall configuration objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of firewall configuration objects (just keys) that were not modified due to some error. If set to false, the list of firewall configuration objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of firewall configuration objects (just keys) that were successfully updated. If set to false, the list of firewall configuration objects modified will not be returned. Default: true

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		net-firewall-config-modify-iter-info[] optional	Information about firewall configuration objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching firewall configuration objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of firewall configuration objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of firewall configuration objects that matched the query and were successfully updated.
success-list		net-firewall-config-modify-iter-info[] optional	The firewall configuration objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-firewall-policy-create

[top]

Create a new firewall policy

Input Name	Range	Type	Description
allow-list		ip-and-mask[]	Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format:
policy		string	Specifies the name of the firewall policy
return-record		boolean optional	If set to true, returns the firewall policy on successful creation. Default: false
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol',

			• 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',
vserver		vserver-name	Specifies the name of the vserver on which the firewall policy is defined.

Output Name	Range	Type	Description
result		net-firewall-policy-info optional	The firewall policy created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-firewall-policy-destroy

[top]

Destroy an existing firewall policy

Input Name	Range	Type	Description
policy		string	Specifies the name of the firewall policy
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',
vserver		vserver-name	Specifies the name of the vserver on which the firewall policy is defined.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-firewall-policy-get

[top]

Get the attributes of a firewall policy.

Input Name	Range	Type	Description
desired-attributes		net-firewall-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	Specifies the name of the firewall policy
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',

Output Name	Range	Type	Description
attributes		net-firewall-policy-info	The attributes of the firewall policy.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-firewall-policy-get-iter

[top]

Iterate over a list of firewall policy objects.

Input Name	Range	Type	Description
desired-attributes		net-firewall-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		net-firewall-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall policy object. All firewall policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-firewall-policy-info[] optional	The list of attributes of firewall policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more firewall policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-firewall-policy-modify

[top]

Modify an existing firewall policy.

Input Name	Range	Type	Description
allow-list		ip-and-mask[] optional	Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format:
policy		string	Specifies the name of the firewall policy
service		fw-service	Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol', • 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol',
vserver		vserver-name	Specifies the name of the vserver on which the firewall policy is defined.

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-hosts-create

[top]

Create a new IP to host names mapping

Input Name	Range	Type	Description
aliases		string[] optional	The list of aliases such as 'host1.sales.foo.com'.
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.
hostname		string	Canonical hostname in a simple string or in FQDN
return-record		boolean optional	If set to true, returns the hosts on successful creation. Default: false

Output Name	Range	Type	Description
result		hosts-info optional	The hosts created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-hosts-destroy

[top]

Delete an existing hosts object.

Input Name	Range	Type	Description
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-hosts-get

[top]

Given an IP address, return the corresponding IP to host names mapping of the running Vserver context

Input Name	Range	Type	Description
desired-attributes		hosts-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.

Output Name	Range	Type	Description
attributes		hosts-info	The attributes of the hosts.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-hosts-get-iter

[top]

Iterate all IP to host name mappings (over all Vserver) of the cluster

Input Name	Range	Type	Description
desired-attributes		hosts-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		hosts-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the hosts object. All hosts objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		hosts-info[] optional	The list of attributes of hosts objects.
next-tag		string optional	Tag for the next call. Not present when there are no more hosts objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-hosts-modify

[top]

Given an IP address, modify the corresponding IP to host name mapping. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
aliases		string[] optional	The list of aliases such as 'host1.sales.foo.com'.
host-ip-address		ip-address	IPv4 address in dotted form as '123.123.123.123'.
hostname		string optional	Canonical hostname in a simple string or in FQDN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-create

[top]

Create a new logical interface.

Input Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP.
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down',
comment		string optional	Comment
data-protocols		data-protocol[] optional	Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Possible values: • "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols.,

			• "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF.
failover-group		failover-group optional	Specifies the failover group name.
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'.
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt', • 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster'
force-subnet-association		boolean optional	Force the LIF's Subnet Association
home-node		string optional	Specifies the LIF's home node.
home-port		string optional	Specifies the LIF's home port.
interface-name		string	Specifies the logical interface (LIF) name.
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level
is-ipv4-link-local		boolean optional	If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true.
is-vip		boolean optional	Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified.
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP.
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask.
probe-port	**[0..2^32-1]**	integer optional	Probe-port for Cloud Load Balancer
return-record		boolean optional	If set to true, returns the given network interface on successful creation. Default: false
			Specifies the role of the LIF. Default: data Possible values:

role		string optional	• "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet)
service-policy		string optional	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: • 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster'
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration.
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string	Specifies the Vserver name.

Output Name	Range	Type	Description
result		net-interface-info optional	The given network interface created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

EONTAPI_EADDRINUSE	
EONTAPI_EEXIST	
E_INVALID_PORT_NAME	
EAPIUNSUPPORTEDVERSION	
E_DEGRADED_PORT_CANT_HOST_LIF	
E_SAN_NOT_READY	
E_NVMF_EXCLUSIVE_VSERVER	
E_NVMF_SERVICE_REQUIRED	
E_NVMF_UNSUPPORTED_LIF_CONFIG	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-delete

[top]

Destroy an existing network interface object.

Input Name	Range	Type	Description
interface-name		string	Specifies the logical interface (LIF) name.
vserver		string	Specifies the Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
E_SAN_NOT_READY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-get

[top]

Get the attributes of a network interface.

Input Name	Range	Type	Description
desired-attributes		net-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface-name		string	Specifies the logical interface (LIF) name.

Output Name	Range	Type	Description
attributes		net-interface-info	The attributes of the given network interface.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-interface-get-iter

[top]

Iterate over a list of network interface objects.

Input Name	Range	Type	Description
desired-attributes		net-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the given network interface object. All given network interface objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-info[] optional	The list of attributes of given network interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more given network interface objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-interface-migrate

[top]

Migrate a Logical Interface between nodes and ports

Input Name	Range	Type	Description
destination-node		node-name	Specifies the node to which the logical interface is to be migrated.
destination-		string	Specifies the port or interface group to which the logical interface is to be

port		optional	migrated. If not specified, this field will be set to the port name of the port on which the LIF currently resides. example: node2
force		boolean optional	Force the migration operation. If not specified, this field will be set to false. If set to true, migrating a LIF whos 'sticky' field is set to true, or whose current node is sick will be allowed. Otherwise they will not be permitted.
lif		string	Specifies the logical interface that is to be migrated. example: lif1
vserver		string	Specifies the Vserver that owns the logical interface that is to be migrated. example: vs0

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_DEGRADED_PORT_CANT_MOVE_LIF	

net-interface-modify

[top]

Modify the attributes of network interface object.

Input Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP.
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down',
comment		string optional	Comment
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF.
failover-group		failover-group optional	Specifies the failover group name.
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'.
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt',

			• 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster'
force-subnet-association		boolean optional	Force the LIF's Subnet Association
home-node		string optional	Specifies the LIF's home node.
home-port		string optional	Specifies the LIF's home port.
interface-name		string	Specifies the logical interface (LIF) name.
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified.
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP.
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask.
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet)
service-policy		string optional	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: • 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster'
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration.
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string	Specifies the Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_SAN_NOT_READY	
E_DEGRADED_PORT_CANT_MOVE_LIF	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-modify-iter

[top]

Modify the attributes of network interface or a group of network interface objects.

Input Name	Range	Type	Description
attributes		net-interface-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple given network interface objects match a given query. If set to true, the API will continue modifying the next matching given network interface even when modification of a previous given network interface fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching given network interface even when the modification of a previous matching given network interface fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		net-interface-info	If modifying a specific given network interface, this input element must specify all keys. If modifying given network interface objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of given network interface objects (just keys) that were not modified due to some error. If set to false, the list of given network interface objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of given network interface objects (just keys) that were successfully updated. If set to false, the list of given network interface objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

failure-list		net-interface-modify-iter-info[] optional	Information about given network interface objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching given network interface objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of given network interface objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of given network interface objects that matched the query and were successfully updated.
success-list		net-interface-modify-iter-info[] optional	The given network interface objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	
E_SAN_NOT_READY	
E_DEGRADED_PORT_CANT_MOVE_LIF	

net-interface-rename

[top]

Rename a logical interface.

Input Name	Range	Type	Description
interface-name		string	Specifies the logical interface that is to be renamed.
new-name		string	Specifies the new name for the interface.
vserver		string	Specifies the Vserver that owns the logical interface that is to be renamed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-revert

[top]

Revert a logical interface back to its home port following a deliberate migration or failover.

Input Name	Range	Type	Description
interface-name		string	Specifies the logical interface that is to be reverted.
vserver		string	Specifies the Vserver that owns the logical interface that is to be reverted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_DEGRADED_PORT_CANT_MOVE_LIF	

net-interface-service-get

[top]

Get the attributes of the network interface service object.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
service		lif-service-name	The name of the network interface service.

Output Name	Range	Type	Description
attributes		net-interface-service-info	The attributes of the net-interface-service.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

net-interface-service-get-iter

[top]

Iterate over a list of network interface service objects.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

		optional	
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-service-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service object. All net-interface-service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-service-info[] optional	The list of attributes of net-interface-service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-interface-service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-interface-service-policy-add-service

[top]

Add an additional service to an existing network interface service policy.

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[] optional	The allowed address list to be associated with this service.
policy		string	The name of the network interface service policy.
service		lif-service-name	The service to be added to the specified network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_NOT_FOUND	
E_NET_SERVICE_ALREADY_IN_POLICY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-clone

[top]

Clone a network service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
target-policy		string	Use this name for the new network service policy.
target-vserver		vserver-name	Use this vserver for the new network service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_ALREADY_EXISTS	
E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-create

[top]

Create a new network interface service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
return-record		boolean optional	If set to true, returns the net-interface-service-policy on successful creation. Default: false
services		lif-service-name[] optional	Services included in the network interface service policy.
vserver		string	Vserver name that the network interface service policy belongs to.

Output Name	Range	Type	Description
result		net-interface-service-policy-info optional	The net-interface-service-policy created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_NOT_SUPPORTED	
E_NET_SERVICE_POLICY_RESERVED_NAME	
E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED	
E_NET_SERVICE_NOT_FOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-destroy

[top]

Delete an existing network interface service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
vserver		string	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_SYSTEM_OWNED	
E_NET_SERVICE_POLICY_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-entry-get

[top]

Get the attributes of the network interface service policy entry.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	The name of the network interface service policy.
service		lif-service-name	The name of the network interface service contained in this policy.

Output Name	Range	Type	Description
attributes		net-interface-service-policy-entry-info	The attributes of the net-interface-service-policy-entry.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

net-interface-service-policy-entry-get-iter

[top]

Iterate over a list of network interface service policy entry.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-entry-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-service-policy-entry-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy-entry object. All net-interface-service-policy-entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-service-policy-entry-info[] optional	The list of attributes of net-interface-service-policy-entry objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-interface-service-policy-entry objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-interface-service-policy-get

[top]

Get the attributes of the network interface service policy object.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	The name of the network interface service policy.

Output Name	Range	Type	Description
attributes		net-interface-service-policy-info	The attributes of the net-interface-service-policy.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

net-interface-service-policy-get-iter

[top]

Iterate over a list of network interface service policy objects.

Input Name	Range	Type	Description
desired-attributes		net-interface-service-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-interface-service-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy object. All net-interface-service-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-interface-service-policy-info[] optional	The list of attributes of net-interface-service-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-interface-service-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-interface-service-policy-modify-service

[top]

Modify the attributes of an existing network interface service policy.

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[]	The allowed address list to be associated with this service.
policy		string	The name of the network interface service policy.
service		lif-service-name	The service to be updated in the specified network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_NOT_IN_POLICY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-remove-service

[top]

Remove a service from an existing network interface service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
service		lif-service-name	The service to be removed from the specified network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_NOT_IN_POLICY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-rename

[top]

Rename a network service policy.

Input Name	Range	Type	Description

new-name		string	Assign this name to the network service policy.
policy		string	The name of the network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_SYSTEM_OWNED	
E_NET_SERVICE_POLICY_ALREADY_EXISTS	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-interface-service-policy-restore-defaults

[top]

Restore default settings to a network service policy.

Input Name	Range	Type	Description
policy		string	The name of the network interface service policy.
vserver		vserver-name	Vserver name that the network interface service policy belongs to.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
E_NET_SERVICE_POLICY_NO_DEFAULTS	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-ipspaces-create

[top]

Create an IPspace

Input Name	Range	Type	Description
ipspace		string	IPspace name
return-record		boolean optional	If set to true, returns the given IPspace on successful creation. Default: false

Output Name	Range	Type	Description
result		net-ipspaces-info optional	The given IPspace created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	

EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	

net-ipspaces-destroy

[top]

Delete an IPspace

Input Name	Range	Type	Description
ipspace		string	IPspace name

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-ipspaces-get

[top]

Get the attributes of an IPspace.

Input Name	Range	Type	Description
ipspace		string	IPspace name

Output Name	Range	Type	Description
broadcast-domains		broadcast-domain-name[] optional	The broadcast domains that belong to the IPspace
ports		net-qualified-port-name[] optional	The ports that have been assigned to the IPspace. This field must be specified with the following format: :
vservers		vserver-name[]	The vservers that have been assigned to the IPspace

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-ipspaces-get-iter

[top]

Iterate over a list of IPspace objects.

Input Name	Range	Type	Description

desired-attributes		net-ipspaces-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ipspaces-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the given IPspace object. All given IPspace objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ipspaces-info[] optional	The list of attributes of given IPspace objects.
next-tag		string optional	Tag for the next call. Not present when there are no more given IPspace objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-ipspaces-rename

[top]

Rename an IPspace.

Input Name	Range	Type	Description
ipspace		string	Current IPspace name
new-name		string	New IPspace name. Note: You cannot rename system defined ipspaces.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	

net-ndp-active-neighbor-destroy

[top]

Delete an existing network ndp active neighbor object.

Input Name	Range	Type	Description

neighbor		ip-address	Specify the neighbor IPv6 address. Example: fd20:13::1
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical port.
subnet-group		ip-and-mask	Subnet Group
vserver		vif-owner-name	Specify the name of a System or Admin Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-active-neighbor-get

[top]

Get the attributes of the network ndp active neighbor.

Input Name	Range	Type	Description
desired-attributes		net-ndp-neighbor-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
neighbor		ip-address	Specify the neighbor IPv6 address. Example: fd20:13::1
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical port.
subnet-group		ip-and-mask	Subnet Group
vserver		vif-owner-name	Specify the name of a System or Admin Vserver.

Output Name	Range	Type	Description
attributes		net-ndp-neighbor-cache-info	The attributes of the network ndp active neighbor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-active-neighbor-get-iter

[top]

Iterate over a list of network ndp active neighbor objects.

Input Name	Range	Type	Description

desired-attributes		net-ndp-neighbor-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ndp-neighbor-cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp active neighbor object. All network ndp active neighbor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ndp-neighbor-cache-info[] optional	The list of attributes of network ndp active neighbor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ndp active neighbor objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ndp-default-router-delete-all

[top]

Delete default routers on a given IPspace

Input Name	Range	Type	Description
ipspace		string	Speicifies the IPspace where the default router list will be deleted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-default-router-get

[top]

Get the attributes of the network ndp default-router.

Input Name	Range	Type	Description
		net-ndp-default-	Specify the attributes that should be returned. If not present, all

desired-attributes		router-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	Specify the name of the Ipspace.
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical interface.
router-addr		ip-address	Specify the default router IPv6 address.

Output Name	Range	Type	Description
attributes		net-ndp-default-router-info	The attributes of the network ndp default-router.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-default-router-get-iter

[top]

Iterate over a list of network ndp default-router objects.

Input Name	Range	Type	Description
desired-attributes		net-ndp-default-router-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ndp-default-router-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp default-router object. All network ndp default-router objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ndp-default-router-info[] optional	The list of attributes of network ndp default-router objects.

next-tag		string optional	Tag for the next call. Not present when there are no more network ndp default-router objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ndp-neighbor-create

[top]

Configure a new NDP neighbor entry

Input Name	Range	Type	Description
mac-address		mac-address	Specifies the neighbor's MAC Address.
neighbor-address		ip-address	Specifies the neighbor's IPv6 Address.
return-record		boolean optional	If set to true, returns the network NDP neighbor on successful creation. Default: false

Output Name	Range	Type	Description
result		ndp-neighbor-info optional	The network NDP neighbor created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

net-ndp-neighbor-destroy

[top]

Delete an existing static NDP neighbor entry

Input Name	Range	Type	Description
neighbor-address		ip-address	Specifies the neighbor's IPv6 Address.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-neighbor-get

[top]

Get a static configured NDP neighbor entry.

Input Name	Range	Type	Description

desired-attributes		ndp-neighbor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
neighbor-address		ip-address	Specifies the neighbor's IPv6 Address.

Output Name	Range	Type	Description
attributes		ndp-neighbor-info	The attributes of the network NDP neighbor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-neighbor-get-iter

[top]

Iterator over a list of static configured NDP neighbor entries.

Input Name	Range	Type	Description
desired-attributes		ndp-neighbor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		ndp-neighbor-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network NDP neighbor object. All network NDP neighbor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ndp-neighbor-info[] optional	The list of attributes of network NDP neighbor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network NDP neighbor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-ndp-prefix-delete-all

[top]

Delete IPv6 prefixes on a given IPspace

Input Name	Range	Type	Description
ipspace		string	Speicifies the IPspace where the prefix list will be deleted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-prefix-get

[top]

Get the attributes of the network ndp prefix.

Input Name	Range	Type	Description
desired-attributes		net-ndp-prefix-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	Specify the name of the Ipspace.
node		node-name	Specify the name of the node.
port		lif-bindable	Specify the physical port.
prefix		ip-and-mask	Specify the prefix.

Output Name	Range	Type	Description
attributes		net-ndp-prefix-info	The attributes of the network ndp prefix.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-ndp-prefix-get-iter

[top]

Iterate over a list of network ndp prefix objects.

Input Name	Range	Type	Description
desired-		net-ndp-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		prefix-info optional	present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-ndp-prefix-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp prefix object. All network ndp prefix objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-ndp-prefix-info[] optional	The list of attributes of network ndp prefix objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network ndp prefix objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-options-get

[top]

Get the attributes of the net.

Output Name	Range	Type	Description
net-options		net-options	Network Options Typedef

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-options-hypervisor-uplink-monitoring-get

[top]

Get the hypervisor uplink monitoring status.

Input Name	Range	Type	Description
desired-attributes		net-options-hypervisor-uplink-monitoring-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is

		info optional	available will be returned.

Output Name	Range	Type	Description
attributes		net-options-hypervisor-uplink-monitoring-info	The attributes of the net.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-options-hypervisor-uplink-monitoring-modify

[top]

Modify the hypervisor uplink monitoring status.

Input Name	Range	Type	Description
enabled		boolean optional	Hypervisor Uplink Monitoring

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-options-modify

[top]

Modify the attributes of net object.

Input Name	Range	Type	Description
net-options		net-options	Network Options Typedef

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-placement-cache-delete

[top]

Delete LIF placement cached information.

Input Name	Range	Type	Description
address		ip-address	The IP address that was searched.

netmask-length	**[0..2^32-1]**	integer	The number of bits in the subnet mask (i.e. 24 or 64).
node		string	Specifies the name of the node.
port		string	The port name on the node.
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

net-placement-cache-get-iter

[top]

Iterate over the LIF placement cached information.

Input Name	Range	Type	Description
desired-attributes		net-placement-cache optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-placement-cache optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network interface placement object. All network interface placement objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-placement-cache[] optional	The list of attributes of network interface placement objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network interface placement objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-placement-discover

[top]

Find the ports direcly connected to the IP address

Input Name	Range	Type	Description
address		string	IP Address
mac		string optional	MAC Address
netmask-length	**[0..2^32-1]**	integer	Netmask Length
vserver		string	Vserver Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

net-port-broadcast-domain-add-ports

[top]

Add ports to a layer 2 broadcast domain.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
ports		net-qualified-port-name[]	Ports to be added to the broadcast domain. Format:node-name:port-name

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status	Overall Port Update Status

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_PORT_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP	

net-port-broadcast-domain-create

[top]

Create a new layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.

ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
mtu	**[0..2^32-1]**	integer	Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain.
ports		net-qualified-port-name[] optional	Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_PORT_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_CANNOT_ADD_TO_CLUSTER_IPSPACE	
E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU	
E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP	

net-port-broadcast-domain-destroy

[top]

Destroy an existing layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	

E_VIFMGR_CANNOT_REMOVE_CLUSTER_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_HOSTS_PORTS	

net-port-broadcast-domain-get

[top]

Get the attributes of the layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
desired-attributes		net-port-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.

Output Name	Range	Type	Description
attributes		net-port-broadcast-domain-info	The attributes of the net-port-broadcast-domain.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	

net-port-broadcast-domain-get-iter

[top]

Iterate over a list of layer 2 broadcast domain objects.

Input Name	Range	Type	Description
desired-attributes		net-port-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-port-broadcast-domain-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-port-broadcast-domain object. All net-port-broadcast-domain objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

			obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-port-broadcast-domain-info[] optional	The list of attributes of net-port-broadcast-domain objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-port-broadcast-domain objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	

net-port-broadcast-domain-merge

[top]

Merges two layer 2 broadcast domains.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
into-broadcast-domain		broadcast-domain-name	Merge with this layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_MERGE_MTU_MISMATCH	

net-port-broadcast-domain-modify

[top]

Modify the attributes of the layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
			Maximum Transmission Unit (MTU) of the layer 2 broadcast

mtu	**[0..2^32-1]**	integer	domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain.

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU	

net-port-broadcast-domain-remove-ports

[top]

Remove ports from a layer 2 broadcast domain.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
ports		net-qualified-port-name[]	Ports to be removed from their current layer 2 broadcast domain.

Output Name	Range	Type	Description
port-update-status-combined		broadcast-domain-port-status	Overall Port Update Status

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_PORT_NOT_FOUND	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_PORT_NOT_ASSIGNED_TO_BROADCAST_DOMAIN	

net-port-broadcast-domain-rename

[top]

Rename a layer 2 broadcast domain.

Input Name	Range	Type	Description

broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
new-name		string	New name for the layer 2 broadcast domain

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_CANNOT_RENAME_CLUSTER_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_RENAME_ENTRY_EXISTS	

net-port-broadcast-domain-split

[top]

Splits a layer 2 broadcast domain into two layer 2 broadcast domains.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'.
new-broadcast-domain		broadcast-domain-name	New layer 2 broadcast domain name.
ports		net-qualified-port-name[]	The ports to be split from current broadcast domain and added to the new broadcast domain. Format:node-name:port-name

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_PORT_NOT_ASSIGNED_TO_SAME_BROADCAST_DOMAIN	
E_VIFMGR_BROADCAST_DOMAIN_NAMED_FAILOVER_GROUP_EXISTS	
E_VIFMGR_FAILOVER_GROUP_TARGETS_NOT_IN_SPLIT_PORTS	
E_VIFMGR_LIF_CURRENT_AND_HOME_NOT_IN_SPLIT	
E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_NOT_SPLIT	
E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_IN_SPLIT	
E_VIFMGR_SUBNET_USED_BY_PORTS_IN_BROADCAST_DOMAIN	

net-port-delete

[top]

Delete a physical network port. This is typically used when there is an entry in the port table reffering to a physical port that was previously removed from a node. Any LIFs hosted on the port must be deleted or moved to another port before deletion of the port is permitted

Input Name	Range	Type	Description
node		node-name	Specifies the name of node.
port		lif-bindable	Specifies the name of port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_CANT_DELETE_PORT_HOSTING_LIF	

net-port-get

[top]

Get the attributes of a network port.

Input Name	Range	Type	Description
desired-attributes		net-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		string	Specifies the name of node.
port		string	Specifies the name of port.

Output Name	Range	Type	Description
attributes		net-port-info	The attributes of the given network port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-get-iter

[top]

Iterate over a list of network port objects.

Input Name	Range	Type	Description
desired-attributes		net-port-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

		optional	will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the given network port object. All given network port objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-port-info[] optional	The list of attributes of given network port objects.
next-tag		string optional	Tag for the next call. Not present when there are no more given network port objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-health-monitor-disable

[top]

Disable one or more port health monitors

Input Name	Range	Type	Description
health-monitors		netport-degraded-reason[]	List of Port Health Monitors to Disable
ipspace		string	IPspace Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-port-health-monitor-enable

[top]

Enable one or more port health monitors

Input Name	Range	Type	Description
health-monitors		netport-degraded-reason[]	List of Port Health Monitors to Enable
ipspace		string	IPspace Name

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-port-health-monitor-get

[top]

Get the network port health monitors enabled for an IPspace.

Input Name	Range	Type	Description
desired-attributes		net-port-health-monitor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace Name

Output Name	Range	Type	Description
attributes		net-port-health-monitor-info	The attributes of the net.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-port-health-monitor-get-iter

[top]

Iterate over the the network port health monitors enabled for each IPspace.

Input Name	Range	Type	Description
desired-attributes		net-port-health-monitor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-port-health-monitor-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		net-port-	

attributes-list		health-monitor-info[] optional	The list of attributes of net objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-port-ifgrp-add-port

[top]

Add port to a network interface group.

Input Name	Range	Type	Description
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.
port		string	Specifies the name of port.
skip-broadcast-domain-placement		boolean optional	Skip Placement Into Broadcast Domain

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_DEGRADED_PORT_IFGRP_ADDED	

net-port-ifgrp-create

[top]

Create a new network interface group.

Input Name	Range	Type	Description
distribution-function		string	Specifies the traffic distribution function for the ifgrp. Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.

mode		string	Specifies the link policy for the ifgrp. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time'
node		string	Specifies the name of node.
return-record		boolean optional	If set to true, returns the network interface group on successful creation. Default: false

Output Name	Range	Type	Description
result		net-ifgrp-info optional	The network interface group created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
E_INVALID_IFGRP_NAME	

net-port-ifgrp-destroy

[top]

Destroy an existing network interface group.

Input Name	Range	Type	Description
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-ifgrp-get

[top]

Get the attributes of a network interface group (ifgrp).

Input Name	Range	Type	Description
desired-attributes		net-ifgrp-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
		netport-	

ifgrp-name		ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.

Output Name	Range	Type	Description
attributes		net-ifgrp-info	The attributes of the network interface group.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-ifgrp-remove-port

[top]

Remove port from a network interface group.

Input Name	Range	Type	Description
ifgrp-name		netport-ifgrp-name	Specifies the interface group name.
node		string	Specifies the name of node.
port		string	Specifies the name of port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-modify

[top]

Modify the given attributes of network port and the rest remain unchanged.

Input Name	Range	Type	Description
administrative-duplex		string optional	Specifies the user preferred duplex setting of the port. Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage
administrative-flowcontrol		string optional	Specifies the user preferred flow control setting of the port.
			Specifies the user preferred speed setting of the port. Possible values:

administrative-speed		string optional	• "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
autorevert-delay	**[0..2^32-1]**	integer optional	For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port.
ignore-health-status		boolean optional	Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false.
ipspace		string optional	Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports.
is-administrative-auto-negotiate		boolean optional	Enables or disables Ethernet auto-negotiation of speed, duplex and flow control.
is-administrative-up		boolean optional	If true, it changes the state of the port to 'up'.
mtu	**[0..2^32-1]**	integer optional	Specifies the maximum transmission unit (MTU) reported by the port.
node		string	Specifies the name of node.
port		string	Specifies the name of port.
role		string optional	This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-port-modify-iter

[top]

Modify the attributes of network port or a group of network port objects.

Input Name	Range	Type	Description
attributes		net-port-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple given network port objects match a given query. If set to true, the API will continue modifying the next matching given network port even when modification of a previous given network port fails. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify

max-failure-count	**[1..2^32-1]**	integer optional	operations before the server gives up and returns. If set, the API will continue modifying the next matching given network port even when the modification of a previous matching given network port fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		net-port-info	If modifying a specific given network port, this input element must specify all keys. If modifying given network port objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of given network port objects (just keys) that were not modified due to some error. If set to false, the list of given network port objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of given network port objects (just keys) that were successfully updated. If set to false, the list of given network port objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		net-port-modify-iter-info[] optional	Information about given network port objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching given network port objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of given network port objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of given network port objects that matched the query and were successfully updated.
success-list		net-port-modify-iter-info[] optional	The given network port objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	

net-qos-marking-get-iter

[top]

Iterate over a list of QoS Marking attributes

Input Name	Range	Type	Description
desired-attributes		qos-marking optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-marking optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-qos-marking object. All net-qos-marking objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-marking[] optional	The list of attributes of net-qos-marking objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-qos-marking objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-qos-marking-modify

[top]

Modify the the QoS Marking attributes of a protocol

Input Name	Range	Type	Description
dscp	**[0..63]**	integer optional	DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48.
ipspace		string	IPspace Name.
is-enabled		boolean optional	QoS Marking status. Default setting is false.
protocol		string	Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-routes-create

[top]

Create a new network route.

Input Name	Range	Type	Description
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1
metric	**[0..2^32-1]**	integer optional	Specify the route metric. If this field is not provided the default will be set to 30
return-record		boolean optional	If set to true, returns the network route on successful creation. Default: false

Output Name	Range	Type	Description
result		net-vs-routes-info optional	The network route created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_EEXIST	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-routes-destroy

[top]

Destroy an existing network route object.

Input Name	Range	Type	Description
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

net-routes-get

[top]

Get the attributes of a network route.

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1

Output Name	Range	Type	Description
attributes		net-vs-routes-info	The attributes of the network route.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-routes-get-iter

[top]

Iterate over a list of network route objects.

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-vs-routes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network route object. All network route objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-vs-routes-info[] optional	The list of attributes of network route objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network route objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-routes-lifs-get

[top]

Get the logical interfaces (LIFs) associated with a network route.

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-lif-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination		ip-and-mask	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64
gateway		ip-address	Specify the route gateway. Example: 10.7.125.1, fd20:13::1

Output Name	Range	Type	Description
attributes		net-vs-routes-lif-info	The attributes of the network route showlifs.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

net-routes-lifs-get-iter

[top]

Iterate over a list of network route objects and get the associated logical interfaces (LIFs).

Input Name	Range	Type	Description
desired-attributes		net-vs-routes-lif-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		net-vs-routes-lif-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the network route showlifs object. All network route showlifs objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-vs-routes-lif-info[] optional	The list of attributes of network route showlifs objects.
next-tag		string optional	Tag for the next call. Not present when there are no more network route showlifs objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

net-san-lif-placement-get

[top]

Get the attributes of the SAN LIF Placement.

Input Name	Range	Type	Description
adapter-type		adapter-type	Adapter type
broadcast-domain		broadcast-domain-name optional	It is for iSCSI protocol only. If provided, only the candidate ports in the given broadcast domain will be returned; otherwise, all candidate ports will be returned. It is interchangeable with subnet-name. If both are provided but the given subnet is not in the given broadcast domain, then an error will be returned.
ipspace-name		string optional	The IPspace that the given subnet or broadcast domain belongs to. It is required when either subnet-name or broadcast-domain is provided.
lifs-per-node	[0..2^32-1]	integer	LIFs per node
nodelist		node-name[] optional	If provided, LIF placement is returned only for the given nodes. Otherwise, they are returned for all nodes in the cluster.
protocol		data-protocol	Protocol
subnet-name		subnet-name optional	It is for iSCSI protocol only. If provided, only the candidate ports in the broadcast domain that the subnet belongs to will be returned; otherwise, all candidate ports will be returned. It is interchangeable with broadcast-domain. If both are provide but the given subnet is not in the given broadcast domain, then an error will be returned.

Output Name	Range	Type	Description
lif-placement		lif-placement-info[]	SAN LIF placement

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
ENODENOTFOUND	
EADAPTERNOTFOUND	
E_TOO_FEW_PORTS	
EAPIUNSUPPORTEDVERSION	

net-subnet-add-ranges

[top]

Add address ranges to a subnet.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed.
ip-ranges		ip-range[]	The list of ranges to add to the subnet
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-create

[top]

Create a new subnet object. A subnet object represents a layer 3 subnet in a network.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	Layer 2 broadcast domain name that the subnet belongs to.
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed.
gateway		ip-address optional	The gateway for the default route of the subnet.

ip-ranges		ip-range[] optional	The list of IP address ranges associated with the subnet.
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
return-record		boolean optional	If set to true, returns the net-subnet on successful creation. Default: false
subnet		ip-and-mask	Layer 3 Subnet
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Output Name	Range	Type	Description
result		net-subnet-info optional	The net-subnet created (keys or the entire object if requested)

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_INVALID_GATEWAY	
E_VIFMGR_CONFLICTS_WITH_EXISTING_SUBNET	
E_VIFMGR_SUBNET_NAME_ALREADY_EXISTS	
E_VIFMGR_SUBNET_ALREADY_EXISTS	
E_VIFMGR_SUBNET_SUBNET_NESTED	
E_VIFMGR_SUBNET_INVALID	
E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_GATEWAY_INVALID	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID	
E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-destroy

[top]

Destroy an existing subnet object.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if the subnet has ranges containing any existing service processor interface or network interface IP addresses. Setting this value to true will remove the network interface associations with the subnet and allow the command to succeed. However, it will not affect service processor interfaces.
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-		subnet-	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or

name		name	a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-get

[top]

Get the attributes of the subnet object.

Input Name	Range	Type	Description
desired-attributes		net-subnet-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Output Name	Range	Type	Description
attributes		net-subnet-info	The attributes of the net-subnet.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	

net-subnet-get-iter

[top]

Iterate over a list of subnet objects.

Input Name	Range	Type	Description
desired-attributes		net-subnet-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-**	integer	The maximum number of records to return in this call. Default: 20

	1]	optional	
query		net-subnet-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnet object. All net-subnet objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-subnet-info[] optional	The list of attributes of net-subnet objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-subnet objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	

net-subnet-modify

[top]

Modify an existing subnet object.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed.
gateway		ip-address optional	The gateway for the default route of the subnet.
ip-ranges		ip-range[] optional	The list of IP address ranges associated with the subnet.
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet		ip-and-mask optional	Layer 3 Subnet
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	

E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_ENTRY_EXISTS	
E_VIFMGR_SUBNET_DUPLICATE_SUBNET	
E_VIFMGR_SUBNET_SUBNET_NESTED	
E_VIFMGR_SUBNET_INVALID	
E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_GATEWAY_INVALID	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID	
E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	
E_VIFMGR_SUBNET_LIF_NETMASK_CHANGE_NOT_SUPPORTED	
E_VIFMGR_SUBNET_LIF_NETMASK_MISMATCH	

net-subnet-remove-ranges

[top]

Remove address ranges from a subnet.

Input Name	Range	Type	Description
force-update-lif-associations		boolean optional	This command will fail if any existing service processor interfaces or network interfaces are using IP addresses in the ranges provided. Setting this value to true will remove the subnet's association with those interfaces and allow the command to succeed.
ip-ranges		ip-range[]	IP ranges to remove
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE	
E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP	

net-subnet-rename

[top]

Rename a layer 3 subnet.

Input Name	Range	Type	Description
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'.
new-name		string	New name for the layer 3 subnet
subnet-name		subnet-name	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	
E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED	
E_VIFMGR_IPSPACE_NOT_FOUND	
E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND	
E_VIFMGR_SUBNET_NOT_FOUND	
E_VIFMGR_SUBNET_ALREADY_EXISTS	

net-subnets-for-broadcast-domain-get

[top]

Get the list of subnets associated with the layer 2 broadcast domain object.

Input Name	Range	Type	Description
broadcast-domain		broadcast-domain-name	The name of the layer 2 broadcast domain.
desired-attributes		net-subnets-for-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string	IPspace name that the layer 2 broadcast domain belongs to.

Output Name	Range	Type	Description
attributes		net-subnets-for-broadcast-domain-info	The attributes of the net-subnets-for-broadcast-domain.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	

net-subnets-for-broadcast-domain-get-iter

[top]

Iterate over a list of subnets associated with the layer 2 broadcast domain objects.

Input Name	Range	Type	Description
		net-	

desired-attributes		subnets-for-broadcast-domain-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		net-subnets-for-broadcast-domain-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnets-for-broadcast-domain object. All net-subnets-for-broadcast-domain objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		net-subnets-for-broadcast-domain-info[] optional	The list of attributes of net-subnets-for-broadcast-domain objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-subnets-for-broadcast-domain objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
E_NET_UI_VIFMGR_NOT_INITIALIZED	

net-test-path

[top]

Test performance between specified nodes

Input Name	Range	Type	Description
connection-detail		boolean optional	Display test results per network path.
destination-cluster		cluster-name	The cluster containing the destination node.
destination-node		string	The node receiving the session request.
session-type		csm-session-type	Type of session used for session parameters. Possible values: • "asyncmirrorlocal" - Intra-cluster Async Mirror, • "asyncmirrorremote" - Inter-cluster Async Mirror, • "remotedatatransfer" - Intra-cluster File/Lun Read/Write

source-node		node-name	The node initiating the session request.

Output Name	Range	Type	Description
average-latency	**[0..2^64-1]**	integer optional	Average request + response time in microseconds, for all request/response pairs.
cookie	**[0..2^32-1]**	integer optional	The send cookie used for the request.
maximum-latency	**[0..2^64-1]**	integer optional	Maximum request + response time in microseconds, for all request/response pairs.
minimum-latency	**[0..2^64-1]**	integer optional	Minimum request + response time in microseconds, for all request/response pairs.
receive-throughput	**[0..2^64-1]**	integer optional	Receive throughput (destination to source node) in bytes/second.
send-throughput	**[0..2^64-1]**	integer optional	Send throughput (source to destination node) in bytes/second.
test-duration	**[0..2^64-1]**	integer optional	Test duration in microseconds.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-traceroute6

[top]

Trace the route IPv6 packets take to a host. The input node is exclusive with the interface input. Only one is allowed. The interface input must be specified with interface owner.

Input Name	Range	Type	Description
debug-mode		boolean optional	Specifies the use of debug-mode for socket level debugging. Default: False
destination-address		string	Specifies the IPv6 address of the destination.
first-hop		integer optional	Specifies the number of hops to skip in trace. Default: 1.
gateway		remote-inet-address optional	Specifies the intermediate gateway.
hop-limit		integer optional	Specifies the maximum hoplimit. Default: 64. Range: [1..255].
interface		string optional	Specifies the LIF from where traceroute is to be started. This interface input must be specified with the interface-owner input.
interface-owner		string optional	Specifies the optional Vserver from which traceroute is to be started. If Vserver is not specified, then traceroute will be started from cluster adminstration Vserver of the cluster.
node		string optional	Specifies the node from which traceroute is to be started. The input node is exclusive with the interface input. Only one is allowed.
nqueries		integer optional	Specifies the number of probes per hop. Default: 3.
numeric		boolean	Specifies printing of hop addresses only numerically rather than

		optional	symbolically and numerically. Default: False.
packet-size		integer optional	Specifies the size of probe packets in bytes. Default: 16 for ICMP6 ECHO and 12 for UDP datagrams.
port		integer optional	Specifies the base UDP port number used in probes. Default: 33434.
use-icmp6		boolean optional	Specifies use of ICMP6 ECHO instead of UDP datagrams for probes. This parameter is mutually exclusive with the udp parameter. Default: False.
use-udp		boolean optional	Specifies use of UDP datagrams for probes. This parameter is mutually exclusive with the icmp6 parameter. Default: True.
verbose		boolean optional	Specifies that all received ICMP packets must be displayed rather than just TIME_EXCEEDED and UNREACHABLE packets. Default: False.
wait-time		integer optional	Specifies the delay time between probes in seconds. Default: 5. Range: [1..65535].

Output Name	Range	Type	Description
raw-output		string optional	The multi-line output of the OS level traceroute6 command.

Errno	Description
EONTAPI_EAFNOSUPPORT	
EONTAPI_EPERM	
EONTAPI_ENOPROTOOPT	
EINTERNALERROR	
EOBJECTNOTFOUND	

net-tuning-icmp-get

[top]

Get ICMP tuning options.

Input Name	Range	Type	Description
desired-attributes		net-tuning-icmp-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		net-tuning-icmp-options	The attributes of the ICMP protocol tuning.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-icmp-modify

[top]

Modify ICMP tuning options

Input Name	Range	Type	Description
is-drop-redirect-enabled		boolean optional	Drop redirect ICMP
node		node-name	Node
redirect-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout
tx-icmp-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMP packets sent per second

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-icmp6-get

[top]

Get ICMPv6 tuning options.

Input Name	Range	Type	Description
desired-attributes		net-tuning-icmp6-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		net-tuning-icmp6-options	The attributes of the ICMPv6 protocol tuning.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-icmp6-modify

[top]

Modify ICMPv6 tuning options

Input Name	Range	Type	Description
is-v6-redirect-		boolean	Accept redirects via ICMPv6

accepted		optional	
node		node-name	Node
redirect-v6-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout
tx-icmp6-err-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMPv6 error messages sent per second

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-tcp-get

[top]

Get TCP tuning options.

Input Name	Range	Type	Description
desired-attributes		net-tuning-tcp-options optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		net-tuning-tcp-options	The attributes of the TCP protocol tuning.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-tuning-tcp-modify

[top]

Modify TCP tuning options

Input Name	Range	Type	Description
is-path-mtu-discovery-enabled		boolean optional	Path MTU discovery enabled
is-rfc3390-enabled		boolean optional	RFC3390 enabled
is-rfc3465-enabled		boolean optional	RFC3465 enabled
is-sack-enabled		boolean	SACK support enabled

		optional	
max-cwnd-increment	**[0..2^32-1]**	integer optional	Maximum congestion window segments incrementation
node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-vip-port-create

[top]

Create a new VIP port.

Input Name	Range	Type	Description
ipspace		string	IPspace Name
node		node-name	Node
port		net-port	Network Port
return-record		boolean optional	If set to true, returns the net-vip-port on successful creation. Default: false

Output Name	Range	Type	Description
result		vip-port-info optional	The net-vip-port created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

net-vip-port-destroy

[top]

Delete a VIP port.

Input Name	Range	Type	Description
node		node-name	Node
port		net-port	Network Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

net-vip-port-get

[top]

Get the attributes of a VIP port.

Input Name	Range	Type	Description
desired-attributes		vip-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
port		net-port	Network Port

Output Name	Range	Type	Description
attributes		vip-port-info	The attributes of the net-vip-port.

Errno	Description
EOBJECTNOTFOUND	

net-vip-port-get-iter

[top]

Iterate over a list of VIP ports.

Input Name	Range	Type	Description
desired-attributes		vip-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vip-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vip-port object. All net-vip-port objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vip-port-info[] optional	The list of attributes of net-vip-port objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-vip-port objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

net-vlan-create

[top]

Create a new vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

Input Name	Range	Type	Description
vlan-info		vlan-info	Vlan to create.

Errno	Description
EVLANEXISTS	
EINTERNALERROR	
EINVALIDINPUTERROR	
EINVALIDTAG	
EINTERFACENOTFOUND	

net-vlan-delete

[top]

Delete a vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

Input Name	Range	Type	Description
vlan-info		vlan-info	Vlan to delete.

Errno	Description
EINTERFACENOTFOUND	

net-vlan-get

[top]

Get the attributes of a VLAN.

Input Name	Range	Type	Description
desired-attributes		vlan-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface-name		string	Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid>
node		string	Node name of vlan interface.

Output Name	Range	Type	Description
		vlan-	

attributes		info	The attributes of the network VLAN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

net-vlan-get-iter

[top]

Iterate over a list of VLAN objects.

Input Name	Range	Type	Description
desired-attributes		vlan-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vlan-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vlan object. All net-vlan objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vlan-info[] optional	The list of attributes of net-vlan objects.
next-tag		string optional	Tag for the next call. Not present when there are no more net-vlan objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

Element definition: **adapter-type**

[top]

Adapter types of physical and logical network ports capable of hosting LIFs. Possible values:

- "fc" - Used for FC Adapters,
- "cna" - Used for CNA Adapters,
- "nic" - Used for NIC Adapters,

"ifgrp" - Used for Interface Groups,
- "cna_or_nic" - Used for CNA and NIC Adapters

[none]

Element definition: **bgp-vserver-info**

[top]

BGP Vserver status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ipv4-status		vserver-bgp-state optional	IPv4 status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Fail to query BGP sessions state, • "unconfigured" - BGP is not configured, • "up" - At lease one BGP session is up, • "down" - No BGP sessions are up
ipv6-status		vserver-bgp-state optional	IPv6 status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Fail to query BGP sessions state, • "unconfigured" - BGP is not configured, • "up" - At lease one BGP session is up, • "down" - No BGP sessions are up
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **csm-session-type**

[top]

AsyncMirrorLocal|AsyncMirrorRemote|RemoteDataTransfer Possible values:

- "asyncmirrorlocal" - Intra-cluster Async Mirror,
- "asyncmirrorremote" - Inter-cluster Async Mirror,
- "remotedatatransfer" - Intra-cluster File/Lun Read/Write

[none]

Element definition: **data-lif-capacity-details-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
capacity-for-node	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that can be configured on the nblade of this node. Attributes: non-creatable, non-modifiable
count-for-node	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are currently homed on this node. Attributes: non-creatable, non-modifiable
limit-for-node	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are supported on this node. Attributes: non-creatable, non-modifiable
		node-	Specifies the node for which the capacity details are provided.

node		name optional	Attributes: key, non-creatable, non-modifiable

Element definition: **data-lif-capacity-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
count	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are currently configured in the cluster. Attributes: non-creatable, non-modifiable
limit	**[0..2^32-1]**	integer optional	Specifies the number of IP data LIFs that are supported in the cluster. Attributes: non-creatable, non-modifiable

Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

Element definition: **dns-status**

[top]

DNS Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
name-server		string optional	Specifies the IP address of a DNS configuration. Attributes: key, non-creatable, non-modifiable
status		string optional	Specifies the status of a DNS configuration. Attributes: non-creatable, non-modifiable
status-details		string optional	Specifies additional information about the status of a DNS configuration. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the DNS configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **external-route-table-info**

[top]

External Routing Table Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
route-table-id		string optional	Route Table ID Attributes: key, required-for-create, non-modifiable

Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **fw-service**

[top]

[none]

Element definition: **hosts-info**

[top]

Name attributes for one host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aliases		string[] optional	The list of aliases such as 'host1.sales.foo.com'. Attributes: optional-for-create, modifiable
host-ip-address		ip-address optional	IPv4 address in dotted form as '123.123.123.123'. Attributes: key, required-for-create, non-modifiable
hostname		string optional	Canonical hostname in a simple string or in FQDN Attributes: required-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **ip-range**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

Element definition: **lif-bindable**

[top]

|

[none]

Element definition: **lif-capacity-info**

[top]

Information Regarding Potentially Over-Provisioned LIFs When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
destination-nodes		filer-id[] optional	This represents the set of nodes a given LIF or LIFs could fail over to. Each node in the list contains at least one port in the given LIF's set of failover targets. Filtering on this field will select only LIFs whose set of failover targets matches the query. Attributes: key, non-creatable, non-modifiable
failover-group		failover-group optional	Specifies the name of an at-risk LIF's failover group. Filtering on this field will select only LIFs whose failover-group attribute matches the query. Attributes: non-creatable, non-modifiable
failover-policy		string optional	Specifies the failover policy for an at-risk LIF. Filtering on this field will select only LIFs whose failover-policy attribute matches the query. Attributes: non-creatable, non-modifiable
lif-name		lif-name optional	Specifies the name of an at-risk LIF. Filtering on this field will select only LIFs whose name matches the query. Attributes: key, non-creatable, non-modifiable
over-amount	**[0..2^32-1]**	integer optional	Indicates the number of LIFs over capacity for a given set of destination-nodes. For all rows returned, this value shall be greater than zero. Filtering on this field will select only LIFs associated with a set of destination nodes whose amount over capacity matches the query. Attributes: non-creatable, non-modifiable
vserver-name		vif-owner-name optional	Specifies the name of the vserver which owns the LIF. Filtering on this field will select only LIFs whose vserver matches the query. Attributes: key, non-creatable, non-modifiable

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **lif-placement-info**

[top]

SAN LIF placement When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
home-node		node-name optional	Home node info Attributes: non-creatable, non-modifiable
home-port		string optional	Port info Attributes: non-creatable, non-modifiable

Element definition: **lif-service-name** [top]

The name of network interface service.

[none]

Element definition: **mac-address** [top]

MAC Address

[none]

Element definition: **ndp-neighbor-info** [top]

NDP Neighbor Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
mac-address		mac-address optional	Specifies the neighbor's MAC Address. Attributes: required-for-create, non-modifiable
neighbor-address		ip-address optional	Specifies the neighbor's IPv6 Address. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **net-active-routes-info**

[top]

Active Routes Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-type		ipaddresstype optional	Specify the address type. Possible values are ipv4 and ipv6. Attributes: key, non-creatable, non-modifiable Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
destination		string optional	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable
flags		string optional	Specify the route's flags. Possible values for flags are U(Usable), G(Gateway), H(Host), R(Reject), D(Dynamic), S(Static), 1(Protocol1), 2(Protocol2), L(Llinfo), and C(Clone). Multiple values can be specified. Example: UHS, UC Attributes: non-creatable, non-modifiable
gateway		string optional	Specify the gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable
interface		string optional	Specify the route's interface. Attributes: key, non-creatable, non-modifiable
lookup-count	**[0..2^32-1]**	integer optional	Specify the count of lookups for the route. Attributes: non-creatable, non-modifiable
metric	**[0..2^32-1]**	integer optional	Specify the route metric. Default: 30 Attributes: non-creatable, non-modifiable
node-name		node-name optional	Specify the name of the node. Attributes: key, non-creatable, non-modifiable
path-mtu	**[0..2^32-1]**	integer optional	Specify the Maximum Transmission Unit for the Path. Attributes: non-creatable, non-modifiable
reference-count	**[0..2^32-1]**	integer optional	Specify the route's reference count. Attributes: non-creatable, non-modifiable
route-interface-address		string optional	Specify the Route Interface Address. Attributes: key, non-creatable, non-modifiable
subnet-group		ip-and-mask optional	Specify the name of the subnet group. Attributes: key, non-creatable, non-modifiable
vserver		vif-owner-name optional	Specify the name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **net-arp-info**

[top]

ARP Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ip-space		string optional	IPspace from which to get the ARP entry. Attributes: non-creatable, non-modifiable
mac-address		mac-address optional	MAC address of remote host. Attributes: required-for-create, non-modifiable
remote-host		ip-address optional	Remote IP address for which to get the ARP entry. Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver from which to get the ARP entry. Attributes: key, non-creatable, non-modifiable

Element definition: **net-arp-operational-info**

[top]

ARP Active-entry Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
mac-address		string optional	MAC address of remote host. Attributes: non-creatable, non-modifiable
node		node-name optional	Node from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable
port-name		string optional	Port name from which to get the ARP active entry. Attributes: key, optional-for-create, non-modifiable
remote-host		string optional	Remote IP address for which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable
subnet-group		ip-and-mask optional	Subnet group from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable
		vif-owner-	System or Admin Vserver from which to get the ARP active entry.

vserver		name optional	Attributes: key, non-creatable, non-modifiable

Element definition: **net-bgp-config-info**

[top]

BGP Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The autonomous system number to which this node belongs. Attributes: required-for-create, modifiable
hold-time	**[0..2^32-1]**	integer optional	The hold time (seconds) value to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable
node		node-name optional	The node name that the BGP configuration belongs to. Attributes: key, required-for-create, non-modifiable
router-id		ip-address optional	The router id (IPv4) to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable

Element definition: **net-bgp-defaults-info**

[top]

BGP Default Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
asn	**[0..2^32-1]**	integer optional	The cluster wide default value for autonomous system number. Attributes: non-creatable, modifiable
hold-time	**[0..2^32-1]**	integer optional	The cluster wide default value for routing information hold time (seconds). Attributes: non-creatable, modifiable

[top]

Element definition: **net-bgp-peer-group-info**

BGP peer group information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bgp-lif		lif-name optional	The LIF associated with this peer group. Attributes: required-for-create, non-modifiable
bgp-node		filer-id optional	The node where the peer group exists. Attributes: non-creatable, non-modifiable
bgp-port		net-port optional	The port where the BGP interface is hosted. Attributes: non-creatable, non-modifiable
ipspace		string optional	Name of the IPspace that the peer group belongs to. Attributes: key, required-for-create, non-modifiable
peer-address		ip-address optional	The remote peer router address. Attributes: required-for-create, modifiable
peer-asn	**[0..2^32-1]**	integer optional	The remote peer router Autonomous number. The default value for this paramenter is '0'. Attributes: optional-for-create, non-modifiable
peer-group		string optional	The name of the peer group. Attributes: key, required-for-create, non-modifiable
route-preference	**[0..2^32-1]**	integer optional	The route preference value associated with this peer group. Attributes: required-for-create, non-modifiable
state		bgp-session-state optional	The bgp session state. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "up" , • "down"

Element definition: **net-ddns-info**

[top]

Contains Dynamic DNS Update configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

domain-name		string optional	Vserver FQDN to Be Used for DNS Updates Attributes: optional-for-create, modifiable
is-enabled		boolean optional	Is Dynamic DNS Update Enabled? Attributes: optional-for-create, modifiable
skip-fqdn-validation		boolean optional	Specifies if the Vserver FQDN name validation is skipped. Attributes: optional-for-create, modifiable
ttl		time-interval optional	TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h. Attributes: optional-for-create, modifiable
use-secure		boolean optional	Use Secure Dynamic DNS Updates? Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **net-device-discovery-info**

[top]

Information about discovered devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
capabilities		device-capability[] optional	Capabilities of the discovered devices. For example: switch, igmp. Attributes: non-creatable, non-modifiable Possible values: • "router" - Router, • "trans_bridge" - Trans Bridge, • "source_route_bridge" - Source Route Bridge, • "switch" - Switch, • "host" - Host, • "igmp" - IGMP, • "repeater" - Repeater, • "phone" - Phone
chassis-id		string optional	Chassis ID of the discovered device. Attributes: non-creatable, non-modifiable
device-ip		ip-address[] optional	IP address(es) of the discovered device. At present, only IPv4 addresses are included. Attributes: non-creatable, non-modifiable
discovered-device		string optional	Device discovered by the physical network port. Attributes: key, non-creatable, non-modifiable
hold-time-remaining	**[0..2^32-1]**	integer optional	Remaining packet hold time in seconds for the discovered device. Attributes: non-creatable, non-modifiable
interface		string optional	Interface port of the discovered device. The format is dependent on the reporting device. For example: FastEthernet0/12 or e0a Attributes: key, non-creatable, non-modifiable
		string	The node on which the network port resides. Attributes: key, non-

node		optional	creatable, non-modifiable
platform		string optional	Platform of the discovered device. For example: N5K-C5010P-BF Attributes: non-creatable, non-modifiable
port		string optional	The name of the physical network port for device discovery. For example: e0a Attributes: key, non-creatable, non-modifiable
protocol		string optional	The name of the discovery protocol. Attributes: key, non-creatable, non-modifiable Possible values: • "cdp" , • "lldp"
system-name		string optional	System Name of the discovered device. Attributes: non-creatable, non-modifiable
version		string optional	Software version of the discovered device. Attributes: non-creatable, non-modifiable

Element definition: **net-dns-info**

[top]

Contains DNS configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attempts	**[1..4]**	integer optional	Max number of trials before giving up and returning error. Default is one. Attributes: optional-for-create, modifiable
dns-state		enable optional	Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. Attributes: optional-for-create, modifiable
domains		string[] optional	List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. Attributes: required-for-create, modifiable
is-tld-query-enabled		boolean optional	Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. Attributes: optional-for-create, modifiable
name-servers		ip-address[] optional	IPv4 addresses of name servers such as '123.123.123.123'. Attributes: required-for-create, modifiable
require-packet-query-match		boolean optional	Require query sections of query and response packets to match. Attributes: optional-for-create, modifiable
require-source-address-match		boolean optional	Require source IP address of reply to match the name-server address. Attributes: optional-for-create, modifiable
skip-config-validation		boolean optional	Skip Configuration Validation Attributes: optional-for-create, modifiable
			Number of seconds to wait for a response from a name server before

timeout	**[1..5]**	integer optional	trying a different name server. Default is two seconds. Attributes: optional-for-create, modifiable
vserver-name		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **net-failover-group-info**

[top]

Failover Group Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domain		broadcast-domain-name optional	Broadcast Domain Attributes: non-creatable, non-modifiable
failover-group		string optional	The failover group. Attributes: key, required-for-create, non-modifiable
targets		net-qualified-port-name[] optional	The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name Attributes: required-for-create, modifiable
vserver		vif-owner-name optional	The vserver for which the failover group is defined. Attributes: key, non-creatable, non-modifiable

Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-		boolean	Specifies whether firewall protection is enabled (true) or disabled (false) for

enabled		optional	the node's network ports. The default setting is true. Attributes: non-creatable, modifiable
is-logging		boolean optional	This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable
node-name		node-name optional	Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable

Element definition: **net-firewall-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against firewall configuration object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
net-firewall-config-key		net-firewall-config-info	The keys for the firewall configuration object to which the modify operation applies.

Element definition: **net-firewall-policy-info**

[top]

Firewall policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allow-list		ip-and-mask[] optional	Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: Attributes: required-for-create, modifiable
ipspace		string optional	Specifies the ipspace of the vserver for which the policy is defined. Attributes: non-creatable, non-modifiable
policy		string optional	Specifies the name of the firewall policy Attributes: key, required-for-create, non-modifiable
			Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include: • 'dns: - THe DNS protocol server', • 'http: - The HTTP protocol',

service		fw-service optional	• 'ndmp: - The NDMP tape backup protocol', • 'ndmps: - The NDMPS tape backup protocol', • 'none: - No protocol (for creating an empty policy)', • 'ntp: - The NTP protocol', • 'rsh: - The RSH protocol', • 'snmp: - The SNMP protocol', • 'telnet: - The Telnet protocol', Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Specifies the name of the vserver on which the firewall policy is defined. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ifgrp-info**

[top]

Network interface group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
distribution-function		string optional	Specifies the traffic distribution function for the ifgrp. Attributes: required-for-create, non-modifiable Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
down-ports		lif-bindable[] optional	Specifies all inactive ports of an ifgrp. Attributes: non-creatable, non-modifiable
ifgrp-name		netport-ifgrp-name optional	Specifies the interface group name. Attributes: key, required-for-create, non-modifiable
mac-address		string optional	Specifies the MAC address of the ifgrp. For example: '02:0c:29:78:e1:b7' Attributes: non-creatable, non-modifiable
mode		string optional	Specifies the link policy for the ifgrp. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time' Attributes: required-for-create, non-modifiable
node		string optional	Specifies the name of node. Attributes: key, required-for-create, non-modifiable

port-participation		string optional	Port participation state of the ifgrp. Attributes: non-creatable, non-modifiable Possible values: • "full" - Indicates all the ifgrp ports are active, • "partial" - Indicates not all the ifgrp ports are active, • "none" - Indicates none of the ifgrp ports is active
ports		lif-bindable[] optional	List of ports associated with this ifgrp. Attributes: non-creatable, non-modifiable
up-ports		lif-bindable[] optional	Specifies all active ports of an ifgrp. Attributes: non-creatable, non-modifiable

Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
address-family		string optional	Address family Attributes: non-creatable, non-modifiable
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down', Attributes: optional-for-create, modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
current-node		string optional	The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable
current-port		string optional	The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable
			Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying

data-protocols		data-protocol[] optional	'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values: • "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols., • "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable
extended-status		string optional	Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable
failover-group		failover-group optional	Specifies the failover group name. Attributes: optional-for-create, modifiable
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt', • 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster' Attributes: optional-for-create, modifiable
force-subnet-association		boolean optional	Force the LIF's Subnet Association Attributes: optional-for-create, modifiable
home-node		string optional	Specifies the LIF's home node. Attributes: optional-for-create, modifiable
home-port		string optional	Specifies the LIF's home port. Attributes: optional-for-create, modifiable
interface-name		string optional	Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	IPspace of LIF Attributes: non-creatable, non-modifiable
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level

			Attributes: optional-for-create, modifiable
is-home		boolean optional	True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable
is-ipv4-link-local		boolean optional	If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable
is-vip		boolean optional	Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable
lif-uuid		uuid optional	Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable
operational-status		string optional	Specifies the operational status of the LIF. Possible values: • 'up', • 'down', Attributes: non-creatable, non-modifiable
probe-port	**[0..2^32-1]**	integer optional	Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable
role		string optional	Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values: • "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable
service-names		lif-service-name[] optional	Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable
		string	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:

service-policy		optional	• 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster' Attributes: optional-for-create, modifiable
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string optional	Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable
wwpn		string optional	Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable

Element definition: **net-interface-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network interface object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
net-key		net-interface-info	The keys for the given network interface object to which the modify operation applies.

Element definition: **net-interface-service-info**

[top]

Network interface service information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failover-policy		svc-failover-policy optional	The policy that defines specific interface failover restrictions for the service. Attributes: non-creatable, non-modifiable Possible values: • "unrestricted" - Service has no restrictions on LIF failover, • "home_port_only" - Service requires that LIFs do not fail off their home port, • "home_node_only" - Service requires that LIFs do not fail off their home node, • "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner
ports		service-port-info[] optional	TCP/UDP Port Information
service		lif-service-name optional	The name of the network interface service. Attributes: key, non-creatable, non-modifiable
vserver-policy		svc-vserver-policy optional	The policy that defines specific vserver restrictions for the the service. Attributes: non-creatable, non-modifiable Possible values: • "unrestricted" - Service has no vserver restrictions, • "system_only" - Service is only compatible with system vservers, • "data_only" - Service is only compatible with data vservers, • "cluster_only" - Service is only compatible with cluster vservers

Element definition: **net-interface-service-policy-entry-info**

[top]

network interface service policy entry information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allowed-addresses		ip-and-mask[] optional	A list of IP address and IP mask pairs defining which remote addresses are accepted by this policy. Attributes: non-creatable, non-modifiable
policy		string optional	The name of the network interface service policy. Attributes: key, non-creatable, non-modifiable
service		lif-service-name optional	The name of the network interface service contained in this policy. Attributes: key, non-creatable, non-modifiable
		vserver-	

vserver		name optional	Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable

Element definition: **net-interface-service-policy-info**

[top]

network interface service policy configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-built-in		boolean optional	True if the network interface service policy is managed by the system. Attributes: non-creatable, non-modifiable
policy		string optional	The name of the network interface service policy. Attributes: key, required-for-create, non-modifiable
services		lif-service-name[] optional	Services included in the network interface service policy. Attributes: optional-for-create, non-modifiable
vserver		string optional	Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ipspaces-info**

[top]

IPspace Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domains		broadcast-domain-name[] optional	The broadcast domains that belong to the IPspace Attributes: non-creatable, non-modifiable
id	**[0..2^32-1]**	integer optional	The ID of the IPspace. The system will assign a unique id. Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace name Attributes: key, required-for-create, non-modifiable
		net-	

ports		qualified-port-name[] optional	The ports that have been assigned to the IPspace. This field must be specified with the following format: : Attributes: non-creatable, non-modifiable
uuid		uuid optional	The uuid of the IPspace. The system will assign a unique uuid. Attributes: non-creatable, non-modifiable
vservers		vserver-name[] optional	The vservers that have been assigned to the IPspace Attributes: non-creatable, non-modifiable

Element definition: **net-ndp-default-router-info**

[top]

Default Router Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
expire-time		ndp-expire-time optional	Specify the expire time of the default router entry. Attributes: non-creatable, non-modifiable
flag		ndp-ra-flag optional	Specify the flag of the default router. Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "managed_address_dhcpv6" - Managed Address from DHCPv6, • "other_dhcpv6" - Other Configuration from DHCPv6
ipspace		string optional	Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Specify the name of the node. Attributes: key, non-creatable, non-modifiable
port		lif-bindable optional	Specify the physical interface. Attributes: key, non-creatable, non-modifiable
router-addr		ip-address optional	Specify the default router IPv6 address. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ndp-neighbor-cache-info**

[top]

Neighbor Cache Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
expire-time		ndp-expire-time optional	Specify the expire time of the neighbor cache entry. Attributes: non-creatable, non-modifiable
is-router		boolean optional	Specify whether the neighbor is a router. Attributes: non-creatable, non-modifiable
mac-address		mac-address optional	Specify the MAC address of the neighbor. Attributes: required-for-create, non-modifiable
neighbor		ip-address optional	Specify the neighbor IPv6 address. Example: fd20:13::1 Attributes: key, required-for-create, non-modifiable
node		node-name optional	Specify the name of the node. Attributes: key, required-for-create, non-modifiable
port		lif-bindable optional	Specify the physical port. Attributes: key, required-for-create, non-modifiable
probe-count	**[0..2^32-1]**	integer optional	Specify how many times the neighbor MAC are requested for. Attributes: non-creatable, non-modifiable
state		nd-state optional	Specify the state of the neighbor cache entry. Attributes: non-creatable, non-modifiable Possible values: • "nostate" - No State, • "incomplete" - Incomplete, • "reachable" - Reachable, • "stale" - Stale, • "delay" - Delay, • "probe" - Probe, • "unknown" - Unknown State
subnet-group		ip-and-mask optional	Subnet Group Attributes: key, required-for-create, non-modifiable
vserver		vif-owner-name optional	Specify the name of a System or Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **net-ndp-prefix-info**

[top]

Prefix Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
advertising-router		ip-address[] optional	Specify the routers who advertise the prefix. Attributes: non-creatable, non-modifiable
expire-time		ndp-expire-time optional	Specify the expire time of the prefix entry. Attributes: non-creatable, non-modifiable
flag		ndp-prefix-flag optional	Specify the flag of the prefix entry. Attributes: non-creatable, non-modifiable Possible values: • "none" - None, • "on_link" - On-link Prefix, • "autonomous" - Autonomous Prefix, • "on_link_autonomous" - On-link and Autonomous Prefix
ipspace		string optional	Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable
node		node-name optional	Specify the name of the node. Attributes: key, non-creatable, non-modifiable
origin		ndp-prefix-origin optional	Specify where the prefix assigned from. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknow, • "router_advertise" - Router Advertise, • "renumber_request" - Renumber Request, • "static" - Static, • "kernel" - Kernel
port		lif-bindable optional	Specify the physical port. Attributes: key, non-creatable, non-modifiable
preferred-lifetime		ndp-prefix-lifetime optional	Specify the preferred lifetime of the prefix entry. Attributes: non-creatable, non-modifiable
prefix		ip-and-mask optional	Specify the prefix. Attributes: key, non-creatable, non-modifiable
valid-lifetime		ndp-prefix-lifetime optional	Specify the valid lifetime of the prefix entry. Attributes: non-creatable, non-modifiable

Element definition: **net-options**

[top]

Network Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

detect-switchless-cluster-info		detect-switchless-cluster-info optional	Network options detect-switchless-cluster
ipv6-options-info		ipv6-options-info optional	Network options ipv6
switchless-cluster-info		switchless-cluster-info optional	Network options switchless-cluster

Element definition: **net-options-hypervisor-uplink-monitoring-info**

[top]

Hypervisor Uplink Monitoring Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
enabled		boolean optional	Hypervisor Uplink Monitoring Attributes: non-creatable, modifiable

Element definition: **net-placement-cache**

[top]

Network interface (LIF) placement cached information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	The IP address that was searched. Attributes: key, required-for-create, non-modifiable
found		boolean optional	Whether the subnet described was found on this port. Attributes: non-creatable, non-modifiable
netmask-length	**[0..2^32-1]**	integer optional	The number of bits in the subnet mask (i.e. 24 or 64). Attributes: key, required-for-create, non-modifiable
node		string optional	Specifies the name of the node. Attributes: key, required-for-create, non-modifiable
port		string optional	The port name on the node. Attributes: key, required-for-create, non-modifiable

vserver		string optional	Vserver Name Attributes: key, required-for-create, non-modifiable

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **net-port-broadcast-domain-info**

[top]

Layer 2 broadcast domain configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domain		broadcast-domain-name optional	The name of the layer 2 broadcast domain. Attributes: key, required-for-create, non-modifiable
failover-groups		failover-group[] optional	The list of failover groups associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. Attributes: key, non-creatable, non-modifiable
is-vip		boolean optional	Whether this is a system created VIP broadcast domain. Attributes: non-creatable, non-modifiable
mtu	**[0..2^32-1]**	integer optional	Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. Attributes: required-for-create, modifiable
port-update-status-combined		broadcast-domain-port-status optional	Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. Attributes: non-creatable, non-modifiable Possible values: • "complete" - Port updates are complete and values match the broadcast domain, • "in_progress" - Port values are being updated to match the broadcast domain, • "error" - An error was encountered and values do not match the broadcast domain, • "overridden_while_offline" - Port values were overriden while offline

ports		port-info[] optional	Port information.
subnet-names		subnet-name[] optional	The list of subnet names associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable

Element definition: **net-port-health-monitor-info**

[top]

Network Port Health Monitor Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
health-monitors		netport-degraded-reason[] optional	List of Enabled Port Health Monitors Attributes: non-creatable, modifiable Possible values: • "l2_reachability" - L2 reachability, • "link_flapping" - Link flapping, • "crc_errors" - CRC errors, • "vswitch_link" - vSwitch link
ipspace		string optional	IPspace Name Attributes: key, non-creatable, non-modifiable

Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-duplex		string optional	Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage

administrative-flowcontrol		string optional	Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable
administrative-speed		string optional	Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
autorevert-delay	**[0..2^32-1]**	integer optional	For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable
broadcast-domain		broadcast-domain-name optional	Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable
health-degraded-reasons		netport-degraded-reason[] optional	Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values: • "l2_reachability" - L2 reachability, • "link_flapping" - Link flapping, • "crc_errors" - CRC errors, • "vswitch_link" - vSwitch link
health-status		netport-health-status optional	Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values: • "healthy" , • "degraded"
ifgrp-distribution-function		string optional	For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
ifgrp-mode		string optional	For a port of type 'ifgrp', specifies the link policy. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time'

			Attributes: non-creatable, non-modifiable
ifgrp-node		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable
ifgrp-port		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable
ignore-health-status		boolean optional	Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable
ipspace		string optional	Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable
is-administrative-auto-negotiate		boolean optional	Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable
is-administrative-up		boolean optional	If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable
is-operational-auto-negotiate		boolean optional	True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable
link-status		string optional	Specifies the link status of the port. Possible values: • 'unknown - Port status unknown', • 'up - Port is up', • 'down - Port is down' Attributes: non-creatable, non-modifiable
mac-address		string optional	Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable
mtu	**[0..2^32-1]**	integer optional	Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable
mtu-admin	**[0..2^32-1]**	integer optional	Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable
node		string optional	Specifies the name of node. Attributes: key, required-for-create, non-modifiable
operational-duplex		string optional	Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage
operational-flowcontrol		string optional	Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable
operational-speed		string optional	Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second,

			• "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
port		string optional	Specifies the name of port. Attributes: key, required-for-create, non-modifiable
port-type		string optional	Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values: • "physical" - Physical network interface, • "if_group" - Logical interface group (IEEE 802.3, section 43), • "vlan" - Virtual LAN (IEEE 802.1Q), • "undef" - No defined port type, • "vip" - Virtual network interface for Virtual IP, • "pvlan" - Pseudo Virtual LAN
remote-device-id		string optional	Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable
role		string optional	This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable
vlan-id	**[0..2^32-1]**	integer optional	For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable
vlan-node		string optional	Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable
vlan-port		string optional	For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable
vm-network-name		string optional	Virtual Machine network name Attributes: non-creatable, non-modifiable

Element definition: **net-port-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network port object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
net-key		net-port-info	The keys for the given network port object to which the modify operation applies.

Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

Element definition: **net-subnet-info**

[top]

Layer 3 subnet configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
available-count	**[0..2^32-1]**	integer optional	Number of available pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable
broadcast-domain		broadcast-domain-name optional	Layer 2 broadcast domain name that the subnet belongs to. Attributes: required-for-create, non-modifiable
force-update-lif-associations		boolean optional	This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. Attributes: optional-for-create, modifiable
gateway		ip-address optional	The gateway for the default route of the subnet. Attributes: optional-for-create, modifiable
ip-ranges		ip-range[] optional	The list of IP address ranges associated with the subnet. Attributes: optional-for-create, modifiable
ipspace		string optional	IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. Attributes: key, non-creatable, non-modifiable
subnet		ip-and-mask optional	Layer 3 Subnet Attributes: required-for-create, modifiable
subnet-name		subnet-name optional	Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. Attributes: key, required-for-create, non-modifiable
total-count	**[0..2^32-1]**	integer optional	Number of addresses pre-allocated for the subnet. Attributes: non-creatable, non-modifiable
used-count	**[0..2^32-1]**	integer optional	Number of addresses used from pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable

Element definition: **net-subnets-for-broadcast-domain-info**

[top]

Subnets associated with Layer 2 broadcast domain configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
broadcast-domain		broadcast-domain-name optional	The name of the layer 2 broadcast domain. Attributes: key, non-creatable, non-modifiable
ipspace		string optional	IPspace name that the layer 2 broadcast domain belongs to. Attributes: key, non-creatable, non-modifiable
subnets		subnets-info[] optional	Subnet information.

Element definition: **net-tuning-icmp-options**

[top]

ICMP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-drop-redirect-enabled		boolean optional	Drop redirect ICMP Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
redirect-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable
tx-icmp-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMP packets sent per second Attributes: non-creatable, modifiable

Element definition: **net-tuning-icmp6-options**

[top]

ICMPv6 Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-v6-redirect-accepted		boolean optional	Accept redirects via ICMPv6 Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
redirect-v6-timeout	**[0..65535]**	integer optional	Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable
tx-icmp6-err-limit	**[0..2^32-1]**	integer optional	Maximum number of ICMPv6 error messages sent per second Attributes: non-creatable, modifiable

Element definition: **net-tuning-tcp-options**

[top]

TCP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-path-mtu-discovery-enabled		boolean optional	Path MTU discovery enabled Attributes: non-creatable, modifiable
is-rfc3390-enabled		boolean optional	RFC3390 enabled Attributes: non-creatable, modifiable
is-rfc3465-enabled		boolean optional	RFC3465 enabled Attributes: non-creatable, modifiable
is-sack-enabled		boolean optional	SACK support enabled Attributes: non-creatable, modifiable
max-cwnd-increment	**[0..2^32-1]**	integer optional	Maximum congestion window segments incrementation Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **net-vs-routes-info**

[top]

Vserver routes information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-family		ipaddresstype optional	Address family of the route Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
destination		ip-and-mask optional	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, required-for-create, non-modifiable
gateway		ip-address optional	Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, required-for-create, non-modifiable
metric	**[0..2^32-1]**	integer optional	Specify the route metric. If this field is not provided the default will be set to 30 Attributes: optional-for-create, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **net-vs-routes-lif-info**

[top]

Logical Interfaces associated with a route When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-family		ipaddresstype optional	Address Family Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "ipv4" , • "ipv6" , • "ipv4z" , • "ipv6z" , • "dns"
destination		ip-and-mask optional	Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable
gateway		ip-address optional	Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable

lif-names		lif-name[] optional	Specify the Logical Interface(s). Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

Element definition: **netport-ifgrp-name**

[top]

Interface Group Name

[none]

Element definition: **network-type**

[top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

Element definition: **qos-marking**

[top]

QoS Marking Table When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dscp	**[0..63]**	integer optional	DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48. Attributes: non-creatable, modifiable
ipspace		string optional	IPspace Name. Attributes: key, non-creatable, non-modifiable
is-enabled		boolean optional	QoS Marking status. Default setting is false. Attributes: non-creatable, modifiable
protocol		string optional	Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP. Attributes: key, non-creatable, non-modifiable

Element definition: **receive-buffer**

[top]

Receive buffer window size configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
network		network-type	The network topology classification Attributes: key, required-for-create, non-modifiable Possible values: • "wan" ,

		optional	• "lan" , • "undefined"
protocol		protocol-layer4 optional	The network layer 4 protocol type Attributes: key, required-for-create, non-modifiable Possible values: • "udp" - UDP, • "tcp" - TCP, • "na" - not_available
receive-auto-tune		boolean optional	If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases. Attributes: required-for-create, modifiable
receive-buffer	**[256..7168]**	integer optional	If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases. Attributes: required-for-create, modifiable
service		stream-protocol-service optional	The stream protocol connection classification Attributes: key, required-for-create, non-modifiable Possible values: • "mount" - Mount stream protocol, • "nfs" - NFS stream protocol, • "nfs_v3" - NFS version 3 stream protocol, • "nlm_v4" - Network lock manager stream protocol, • "sm" - Session Manager stream protocol, • "ftp_ctrl" - FTP control stream protocol, • "ftp_data" - FTP data stream protocol, • "http_1_0" - HTTP version 1 stream protocol, • "http_1_1" - HTTP version 1.1 stream protocol, • "iscsi" - ISCSI stream protocol, • "cifs_srv" - CIFS server stream protocol, • "cifs_nam" - CIFS name server stream protocol, • "loopback" - loopback stream protocol, • "rf" - RC stream protocol, • "rawscp" - Raw secure copy stream protocol, • "discard" - Discard stream protocol, • "port_map" - Port map stream protocol, • "pass_thru" - Passthru stream protocol, • "rclopcp" - Rc connection stream protocol, • "nfs_v4" - NFS version 4 stream protocol, • "fcache" - 7 Mode FlexCache stream protocol, • "ctlopcp" - Ct connection stream protocol, • "rquota" - Rquota stream protocol, • "cifs_msrpc" - CIFS MsRpc stream protocol, • "http" - HTTP stream protocol, • "unknown" - unknown protocol, • "s3" - S3 stream protocol, • "sdapi" - SDAPI stream protocol

Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **stream-protocol-service**

[top]

The stream protocol connection classification Possible values:

- "mount" - Mount stream protocol,
- "nfs" - NFS stream protocol,
- "nfs_v3" - NFS version 3 stream protocol,
- "nlm_v4" - Network lock manager stream protocol,
- "sm" - Session Manager stream protocol,
- "ftp_ctrl" - FTP control stream protocol,
- "ftp_data" - FTP data stream protocol,
- "http_1_0" - HTTP version 1 stream protocol,
- "http_1_1" - HTTP version 1.1 stream protocol,
- "iscsi" - ISCSI stream protocol,
- "cifs_srv" - CIFS server stream protocol,
- "cifs_nam" - CIFS name server stream protocol,
- "loopback" - loopback stream protocol,
- "rf" - RC stream protocol,
- "rawscp" - Raw secure copy stream protocol,
- "discard" - Discard stream protocol,
- "port_map" - Port map stream protocol,
- "pass_thru" - Passthru stream protocol,
- "rclopcp" - Rc connection stream protocol,
- "nfs_v4" - NFS version 4 stream protocol,
- "fcache" - 7 Mode FlexCache stream protocol,
- "ctlopcp" - Ct connection stream protocol,
- "rquota" - Rquota stream protocol,
- "cifs_msrpc" - CIFS MsRpc stream protocol,
- "http" - HTTP stream protocol,
- "unknown" - unknown protocol,
- "s3" - S3 stream protocol,
- "sdapi" - SDAPI stream protocol

[none]

Element definition: **subnet-name**

[top]

Name of Subnet

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **vif-owner-name**

[top]

Vserver

[none]

Element definition: **vip-port-info**

[top]

VIP Port Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ipspace		string optional	IPspace Name Attributes: required-for-create, non-modifiable
node		node-name optional	Node Attributes: key, required-for-create, non-modifiable
port		net-port optional	Network Port Attributes: key, required-for-create, non-modifiable

Element definition: **vlan-info**

[top]

vlan

Name	Range	Type	Description
gvrp-enabled		boolean optional	true: GVRP is enabled. Default is false. GVRP is deprecated and this attribute is ignored in cluster mode. GVRP is a standard vlan trunking protocol that enables a port to advertise which vlans it trunks, thereby decreasing traffic over the trunk. This protocol eliminates the need to manually configure vlan information on each switch in the network.
interface-name		string optional	Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid>
node		string optional	Node name of vlan interface.
parent-interface		string	The interface that hosts the vlan interface.
skip-broadcast-domain-placement		boolean optional	true: placement of the vlan port into a broadcast domain will be skipped. Default is false.

vlanid		integer	The vlan id. Range: 1..4094.

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **bgp-session-state**

[top]

BGP Session State Possible values:

- "unknown" ,
- "up" ,
- "down"

[none]

Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,

"cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

Element definition: **detect-switchless-cluster-info**

[top]

Network options detect-switchless-cluster typedef

Name	Range	Type	Description
enabled		boolean optional	Enable Switchless Cluster Detection Attributes: non-creatable, modifiable

Element definition: **device-capability**

[top]

router|trans-bridge|source-route-bridge|switch|host|igmp|repeater|phone Possible values:

- "router" - Router,
- "trans_bridge" - Trans Bridge,
- "source_route_bridge" - Source Route Bridge,
- "switch" - Switch,
- "host" - Host,
- "igmp" - IGMP,
- "repeater" - Repeater,
- "phone" - Phone

[none]

Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **failover-group** [top]

Specifies the failover group name.

[none]

Element definition: **filer-id** [top]

Filer UUID

[none]

Element definition: **fw-service** [top]

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **ip-range** [top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

Element definition: **ipv6-options-info**

[top]

Network options ipv6 typedef

Name	Range	Type	Description
enabled		boolean optional	IPv6 Enabled Attributes: non-creatable, modifiable
is-ipv6-ra-processing-enabled		boolean optional	Router Advertisement (RA) Processing Enabled Attributes: non-creatable, modifiable

Element definition: **lif-bindable**

[top]

|

[none]

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

Element definition: **mac-address**

[top]

MAC Address

[none]

Element definition: **nd-state**

[top]

Possible values:

- "nostate" - No State,
- "incomplete" - Incomplete,
- "reachable" - Reachable,
- "stale" - Stale,
- "delay" - Delay,
- "probe" - Probe,
- "unknown" - Unknown State

[none]

Element definition: **ndp-expire-time**

[top]

Expire Time Interval

[none]

Element definition: **ndp-prefix-flag**

[top]

none|on-link|autonomous|on-link-autonomous Possible values:

- "none" - None,
- "on_link" - On-link Prefix,
- "autonomous" - Autonomous Prefix,
- "on_link_autonomous" - On-link and Autonomous Prefix

[none]

Element definition: **ndp-prefix-lifetime**

[top]

Prefix Lifetime in seconds

[none]

Element definition: **ndp-prefix-origin**

[top]

router-advertise|renumber-request|static|kernel|unknown Possible values:

- "unknown" - Unknow,
- "router_advertise" - Router Advertise,
- "renumber_request" - Renumber Request,
- "static" - Static,
- "kernel" - Kernel

[none]

Element definition: **ndp-ra-flag**

[top]

none|managed-address-DHCPv6|other-DHCPv6 Possible values:

- "none" - None,
- "managed_address_dhcpv6" - Managed Address from DHCPv6,
- "other_dhcpv6" - Other Configuration from DHCPv6

[none]

Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-		boolean	Specifies whether firewall protection is enabled (true) or disabled (false) for the node's network ports. The default setting is true. Attributes: non-

enabled		optional	creatable, modifiable
is-logging		boolean optional	This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable
node-name		node-name optional	Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable

Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
address-family		string optional	Address family Attributes: non-creatable, non-modifiable
administrative-status		string optional	Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values: • 'up', • 'down', Attributes: optional-for-create, modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
current-node		string optional	The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable
current-port		string optional	The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable
			Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values:

data-protocols		data-protocol[] optional	• "nfs" - Used for NFS connections, • "cifs" - Used for CIFS connections, • "iscsi" - Used for iSCSI connections, • "fcp" - Used for Fibre Channel connections, • "fcache" - Used for 7-mode FlexCache connections, • "none" - Used for management. Does not serve any file protocols., • "http" - Used for HTTP connections, • "fc_nvme" - Used for NVMe/FC connections, • "s3" - Used for S3 connections, • "nvme_roce" - Used for NVMe/RoCE connections, • "nvme_tcp" - Used for NVMe/TCP connections
dns-domain-name		dns-zone optional	Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable
extended-status		string optional	Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable
failover-group		failover-group optional	Specifies the failover group name. Attributes: optional-for-create, modifiable
failover-policy		string optional	Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable
firewall-policy		string optional	Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table: • 'LIF Role Protocols Default policy', • '------- --------- --------------', • 'data none mgmt', • 'data any (except fcp) data', • 'node_mgmt any mgmt', • 'cluster_mgmt any mgmt', • 'cluster any cluster', • 'intercluster any intercluster' Attributes: optional-for-create, modifiable
force-subnet-association		boolean optional	Force the LIF's Subnet Association Attributes: optional-for-create, modifiable
home-node		string optional	Specifies the LIF's home node. Attributes: optional-for-create, modifiable
home-port		string optional	Specifies the LIF's home port. Attributes: optional-for-create, modifiable
interface-name		string optional	Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	IPspace of LIF Attributes: non-creatable, non-modifiable
is-auto-revert		boolean optional	If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable
is-dns-update-enabled		boolean optional	Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level Attributes: optional-for-create, modifiable
is-home		boolean optional	True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable

is-ipv4-link-local		boolean optional	If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable
is-vip		boolean optional	Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable
lif-uuid		uuid optional	Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable
listen-for-dns-query		boolean optional	If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable
netmask		ip-address optional	Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable
netmask-length	**[0..2^32-1]**	integer optional	Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable
operational-status		string optional	Specifies the operational status of the LIF. Possible values: • 'up', • 'down', Attributes: non-creatable, non-modifiable
probe-port	**[0..2^32-1]**	integer optional	Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable
role		string optional	Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values: • "undef" - No defined role, • "cluster" - Used for communication using the private cluster network, • "data" - Used for communicating with file service clients, • "node_mgmt" - Used by administrators to configure the node, • "intercluster" - Used for communication with a different cluster, • "cluster_mgmt" - Used by administrators to configure the cluster
routing-group-name		string optional	Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable
service-names		lif-service-name[] optional	Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable
service-policy		string optional	Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: • 'LIF Role Default Policy' • '------------ -----------------' • 'intercluster net-intercluster'

			Attributes: optional-for-create, modifiable
subnet-name		subnet-name optional	Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable
use-failover-group		string optional	Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values: • "system_defined" - Failover targets generated automatically by the system, • "disabled" - Failover targets generated manually by the admin, • "enabled" - Failover targets defined by failover-group, • "unused" - Failover targets are not generated based on this field
vserver		string optional	Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable
wwpn		string optional	Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-duplex		string optional	Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage

administrative-flowcontrol		string optional	Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable
administrative-speed		string optional	Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second, • "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
autorevert-delay	**[0..2^32-1]**	integer optional	For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable
broadcast-domain		broadcast-domain-name optional	Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable
health-degraded-reasons		netport-degraded-reason[] optional	Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values: • "l2_reachability" - L2 reachability, • "link_flapping" - Link flapping, • "crc_errors" - CRC errors, • "vswitch_link" - vSwitch link
health-status		netport-health-status optional	Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values: • "healthy" , • "degraded"
ifgrp-distribution-function		string optional	For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values: • "mac" - Network traffic is distributed on the basis of MAC addresses, • "ip" - Network traffic is distributed on the basis of IP addresses, • "sequential" - Network traffic is distributed round-robin to each interface, • "port" - Network traffic is distributed by transport layer address 4-tuple
ifgrp-mode		string optional	For a port of type 'ifgrp', specifies the link policy. Possible values: • 'multimode - All links are simultaneously active', • 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)', • 'singlemode - Only one link is active at a time' Attributes: non-creatable, non-modifiable

ifgrp-node		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable
ifgrp-port		string optional	For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable
ignore-health-status		boolean optional	Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable
ipspace		string optional	Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable
is-administrative-auto-negotiate		boolean optional	Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable
is-administrative-up		boolean optional	If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable
is-operational-auto-negotiate		boolean optional	True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable
link-status		string optional	Specifies the link status of the port. Possible values: • 'unknown - Port status unknown', • 'up - Port is up', • 'down - Port is down' Attributes: non-creatable, non-modifiable
mac-address		string optional	Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable
mtu	**[0..2^32-1]**	integer optional	Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable
mtu-admin	**[0..2^32-1]**	integer optional	Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable
node		string optional	Specifies the name of node. Attributes: key, required-for-create, non-modifiable
operational-duplex		string optional	Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined duplex, • "auto" - Auto-negotiate duplex setting for link, • "half" - Half-duplex link usage, • "full" - Full-duplex link usage
operational-flowcontrol		string optional	Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable
operational-speed		string optional	Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values: • "undef" - No defined speed, • "auto" - Auto-negotiate speed for link, • "10" - 10 megabits per second, • "100" - 100 megabits per second, • "1000" - 1 gigabit per second, • "10000" - 10 gigabits per second,

			• "40000" - 40 gigabits per second, • "100000" - 100 gigabits per second, • "25000" - 25 gigabits per second
port		string optional	Specifies the name of port. Attributes: key, required-for-create, non-modifiable
port-type		string optional	Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values: • "physical" - Physical network interface, • "if_group" - Logical interface group (IEEE 802.3, section 43), • "vlan" - Virtual LAN (IEEE 802.1Q), • "undef" - No defined port type, • "vip" - Virtual network interface for Virtual IP, • "pvlan" - Pseudo Virtual LAN
remote-device-id		string optional	Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable
role		string optional	This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable
vlan-id	**[0..2^32-1]**	integer optional	For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable
vlan-node		string optional	Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable
vlan-port		string optional	For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable
vm-network-name		string optional	Virtual Machine network name Attributes: non-creatable, non-modifiable

Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

Element definition: **netport-health-status**

[top]

healthy|degraded Possible values:

- "healthy" ,
- "degraded"

[none]

Element definition: **network-type** [top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **port-info** [top]

Port information.

Name	Range	Type	Description
port		net-qualified-port-name optional	Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name Attributes: optional-for-create, non-modifiable
port-update-status		broadcast-domain-port-status optional	Status for each port's updates to match the broadcast domain. See port-update-status-details for detailed error text. Attributes: non-creatable, non-modifiable Possible values: • "complete" - Port updates are complete and values match the broadcast domain, • "in_progress" - Port values are being updated to match the broadcast domain, • "error" - An error was encountered and values do not match the broadcast domain, • "overridden_while_offline" - Port values were overriden while offline
port-update-status-details		string optional	Descriptions of each port's update status. When the status is 'error', this field will contain text describing the error. Attributes: non-creatable, non-modifiable

Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

Element definition: **service-port-info**

[top]

TCP/UDP Port Information

Name	Range	Type	Description
port	**[0..2^32-1]**	integer optional	The list of TCP and UDP ports that the service will listen on. Attributes: non-creatable, non-modifiable
protocol		fw-policy-protocol optional	The IP protocol associated with each port number. Attributes: non-creatable, non-modifiable Possible values: • "tcp" - Applies only to TCP, • "udp" - Applies only to UDP, • "tcp_udp" - Applies to both TCP and UDP, • "icmp" - Applies only to ICMP, • "ipv6_icmp" - Applies only to IPv6-ICMP, • "undef" - Undefined, • "esp" - Applies only to ESP

Element definition: **subnet-name**

[top]

Name of Subnet

[none]

Element definition: **subnets-info**

[top]

Subnet information.

Name	Range	Type	Description
subnet		ip-and-mask optional	The list of subnets associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable

Element definition: **svc-failover-policy**

[top]

svc_failover_policy Possible values:

- "unrestricted" - Service has no restrictions on LIF failover,
- "home_port_only" - Service requires that LIFs do not fail off their home port,
- "home_node_only" - Service requires that LIFs do not fail off their home node,
- "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner

[none]

Element definition: **svc-vserver-policy**

[top]

svc_vserver_policy Possible values:

- "unrestricted" - Service has no vserver restrictions,
- "system_only" - Service is only compatible with system vservers,
- "data_only" - Service is only compatible with data vservers,
- "cluster_only" - Service is only compatible with cluster vservers

[none]

Element definition: **switchless-cluster-info**

[top]

Network options switchless-cluster typedef

Name	Range	Type	Description
enabled		boolean optional	Enable Switchless Cluster Attributes: non-creatable, modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-bgp-state**

[top]

unknown|unconfigured|up|down Possible values:

- "unknown" - Fail to query BGP sessions state,
- "unconfigured" - BGP is not configured,
- "up" - At lease one BGP session is up,
- "down" - No BGP sessions are up

[none]

Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

Element definition: **fw-policy-protocol**

[top]

fw_policy_protocol Possible values:

- "tcp" - Applies only to TCP,
- "udp" - Applies only to UDP,
- "tcp_udp" - Applies to both TCP and UDP,
- "icmp" - Applies only to ICMP,
- "ipv6_icmp" - Applies only to IPv6-ICMP,
- "undef" - Undefined,
- "esp" - Applies only to ESP

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

APIs in Category: **netgroup**

netgroups-file-delete
netgroups-file-get
netgroups-file-get-iter

netgroups-file-delete

[top]

Destroy an existing netgroups file configuration.

Input Name	Range	Type	Description
vserver-name		vserver-name	Specifies the Vserver for the local netgroup file.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

netgroups-file-get

[top]

Get netgroups file configuration.

Input Name	Range	Type	Description
desired-attributes		netgroups-file-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
domain		string optional	Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'.
host		string optional	Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'.
member-netgroup		string optional	Specifies the name of a member netgroup contained within this netgroup.
netgroup-name		string optional	Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access.

user		string optional	Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'.
vserver		vserver-name	Specifies the Vserver for the local netgroup file.

Output Name	Range	Type	Description
attributes		netgroups-file-config-info	The attributes of the netgroup

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

netgroups-file-get-iter

[top]

Iterate over a list of netgroups file configurations.

Input Name	Range	Type	Description
desired-attributes		netgroups-file-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		netgroups-file-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Netgroups file configuration object. All Netgroups file configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		netgroups-file-config-info[] optional	The list of attributes of Netgroups file configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Netgroups file configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

Element definition: **netgroups-file-config-info**

[top]

Netgroups file configuration information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
domain		string optional	Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable
host		string optional	Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable
member-netgroup		string optional	Specifies the name of a member netgroup contained within this netgroup. Attributes: non-creatable, non-modifiable
netgroup-name		string optional	Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access. Attributes: non-creatable, non-modifiable
user		string optional	Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies the Vserver for the local netgroup file. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **nfs**

nfs-disable
nfs-enable
nfs-exportfs-append-rules
nfs-exportfs-append-rules-2
nfs-exportfs-check-permission
nfs-exportfs-delete-rules
nfs-exportfs-fence-disable
nfs-exportfs-fence-enable
nfs-exportfs-flush-cache
nfs-exportfs-list-rules
nfs-exportfs-list-rules-2
nfs-exportfs-load-exports
nfs-exportfs-modify-rule
nfs-exportfs-modify-rule-2
nfs-exportfs-storage-path
nfs-get-supported-sec-flavors
nfs-monitor-add
nfs-monitor-list
nfs-monitor-reclaim
nfs-monitor-remove
nfs-monitor-remove-locks
nfs-service-create
nfs-service-destroy
nfs-service-get
nfs-service-get-create-defaults
nfs-service-get-iter
nfs-service-modify
nfs-stats-get-client-stats
nfs-stats-top-clients-list-iter-end
nfs-stats-top-clients-list-iter-next
nfs-stats-top-clients-list-iter-start
nfs-stats-zero-stats
nfs-status

nfs-disable

[top]

In Data ONTAP 7-Mode, this API will disable NFS server access (effectively same as the CLI command "nfs off") In Data ONTAP Cluster-Mode, this will stop the Vserver's NFS service. If the NFS service was not explicitly created, this API does nothing.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-enable

[top]

In Data ONTAP 7-Mode, this API will enable NFS server access (effectively same as the CLI command "nfs on") In Data ONTAP Cluster-Mode, this will start the Vserver's NFS service. If the NFS service was not explicitly created, this API will create one with default options.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-append-rules

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rules		exports-rule-info[]	List of rules to add to the exports table.
verbose		boolean optional	If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false.

Output Name	Range	Type	Description

exported-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames were successfully appended. Only returned if verbose option is set.
loaded-pathnames		pathname-info[] optional	Verbose output of what pathnames were successfully appended Only returned if verbose option is set.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-append-rules-2

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent. The new security-rule-info structure contains finer grained information about security rules than exports-rule-info.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rules		exports-rule-info-2[]	List of rules to add to the exports table.
verbose		boolean optional	If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false.

Output Name	Range	Type	Description
exported-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames

			were successfully appended. Only returned if verbose option is set.
loaded-pathnames		pathname-info[] optional	Verbose output of what pathnames were successfully appended Only returned if verbose option is set.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-check-permission

[top]

Returns true if the host IP has mount permissions for a specified path.

Input Name	Range	Type	Description
host		string	IP address of the host to check in dotted decimal format: AAA.BBB.CCC.DDD
pathname		string	Returns the permissions for this path.
permission		string	Possible values: "read-only", "read-write", and "root".

Output Name	Range	Type	Description
is-permissible		boolean	True if host has permission to the path.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-delete-rules

[top]

Removes the rules for a set of pathnames. This returns an error if any of the pathnames don't have a rule. In the Data ONTAP 7-Mode, set the persistent option to modify the etc/exports file and keep this change persistent upon reboots whereas it must be true in Data ONTAP Cluster-Mode as the export

entries are always persistent.

Input Name	Range	Type	Description
all-pathnames		boolean optional	Default value is false. Set to true to delete all rules. 'pathnames' option must be left empty if this option is true.
pathnames		pathname-info[] optional	In the Data ONTAP 7-Mode, these must be the pathnames to be deleted from the exports table. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. Modify the etc/exports file to delete the rules permanently. CAUTION: If 'all-pathnames' and 'persistent' are both true, all exports are removed permanently. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
verbose		boolean optional	Return a verbose output of what occurred. If there is an error after deleting only a few rules, 'deleted-pathnames' will return which rules were deleted. Default value is false.

Output Name	Range	Type	Description
deleted-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports table in memory. Only returned if verbose option is set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported.
unexported-pathnames		pathname-info[] optional	In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-fence-disable

[top]

Disables fencing to the given exports for the given entry. This means that the entry will have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

Input Name	Range	Type	Description
all-pathnames		boolean optional	Default value is false. Set to true to unfence all rules. 'fenced-paths' option must be left empty if this option is true.
fenced-hosts		exports-hostname-info[]	An array of hostnames which are to be fenced off.

fenced-paths		pathname-info[] optional	An array of paths which are to be fenced off.
persistent		boolean optional	Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory.
remove-locks		boolean optional	Default value is false. Set to true to reclaim locks of the specified fenced-hosts.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-fence-enable

[top]

Enables fencing to the given exports for the given entry. This means that the entry will not have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

Input Name	Range	Type	Description
all-pathnames		boolean optional	Default value is false. Set to true to fence all rules. 'fenced-paths' option must be left empty if this option is true.
fenced-hosts		exports-hostname-info[]	An array of hostnames which are to be fenced off.
fenced-paths		pathname-info[] optional	An array of paths which are to be fenced off.
persistent		boolean optional	Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-flush-cache

[top]

For the given path, renew or flush the access cache.

Input Name	Range	Type	Description
pathname		string optional	Pathname to flush. If this input is not provided, all of the paths in the exports table are flushed.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-list-rules

[top]

Returns the export rules that were configured with a single security flavor. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

Input Name	Range	Type	Description
pathname		string optional	The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned.

Output Name	Range	Type	Description
rules		exports-rule-info[]	Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory.

Errno	Description
EINTERNALERROR	
EEXPORTSINCOMPATIBLE	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-list-rules-2

[top]

Returns the export rules that were configured with more than one security flavor, using the new security info structure. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

Input Name	Range	Type	Description
pathname		string optional	The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored.
persistent		boolean optional	In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned.

Output Name	Range	Type	Description
rules		exports-rule-info-2[]	Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-load-exports

[top]

Loads the etc/exports file into memory. Replaces exports rules already residing in memory.

Input Name	Range	Type	Description
persistent-only		boolean optional	Default value is false. If true, atomically reloads each rule from the exports file and unloads all other rules.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-exportfs-modify-rule

[top]

Functionally similar to append with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rule		exports-rule-info	The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

nfs-exportfs-modify-rule-2

[top]

Functionally similar to append-2 with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

Input Name	Range	Type	Description
create-multi-clientmatch		boolean optional	If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true.
persistent		boolean	In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned.
rule		exports-rule-info-2	The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory.

Errno	Description

EINTERNALERROR	
EVSERVERNOTFOUND	
ENOENT	
EINVAL	

Vfiler-enabled
Yes

nfs-exportfs-storage-path

[top]

For the given path, determine the actual storage path. Returns an error if the path does not exist.

Input Name	Range	Type	Description
pathname		string	Virtual pathname which has a rule associated with an actual pathname.

Output Name	Range	Type	Description
actual-pathname		string	True path name on the filer, which uses a virtual path for interfacing with the NFS.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-get-supported-sec-flavors

[top]

Returns a list of currently supported security flavors. Hosts with permmisions and connecting via the proper security flavor have access to directories on the filer. Default security flavor for all exports is "sys".

Output Name	Range	Type	Description
sec-flavor		sec-flavor-info[]	List of possible security flavors NFS supports.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License

License
nfs

nfs-monitor-add

[top]

starts monitoring the specified hosts for NFS lock recovery purposes. The specified hosts are added to the list of of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

Input Name	Range	Type	Description
hosts		hostaddr[]	an array of hosts that are to be monitored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-list

[top]

Lists the hosts that are currently being monitored by the NFS status monitor.

Output Name	Range	Type	Description
hosts		hostaddr[]	an array of hosts that are currently being monitored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-reclaim

[top]

reclaims the NFS locks for the specified client hosts. If no hosts are specified, then all the clients locks are removed and are notified about lock recovery, as if an NFS server crash/reboot had happened. If any hosts are specified, then only those client hosts locks are reclaimed For more information, see the sm_mon(1a) manual page.

Input Name	Range	Type	Description

hosts		hostaddr[] optional	hosts whose locks have to be reclaimed. If no hosts are specified, then all the clients locks are reclaimed.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-remove

[top]

Starts unmonitoring the specified hosts for NFS lock recovery purposes. The specified hosts are removed from the list of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

Input Name	Range	Type	Description
hosts		hostaddr[]	an array of hosts that are to be unmonitored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-monitor-remove-locks

[top]

removes the NFS locks of a specfied process of a specified client host.

Input Name	Range	Type	Description
owners		owner-info[]	List of owners whose locks have to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

License
nfs

nfs-service-create

[top]

Create a new NFS configuration.

Input Name	Range	Type	Description
allow-idle-connection-timeout		boolean optional	Are Idle NFS Connections Supported
auth-sys-extended-groups		boolean optional	If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'.
cached-cred-harvest-timeout	**[60000..604800000]**	integer optional	Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-cred-negative-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms.
cached-cred-positive-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-transient-err-ttl	**[30000..300000]**	integer optional	Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms.
chown-mode		nfschownmode optional	Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values: • "restricted" , • "unrestricted" , • "use_export_policy"
default-windows-group		string optional	The default windows group for CIFS access.
default-windows-user		string optional	The default windows user for CIFS access.
enable-ejukebox		boolean optional	If 'true', then the NFS server will send EJUKEBOX error on server delays.
extended-groups-limit	**[32..1024]**	integer optional	Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32.
			Number of I/O operations on a file to be

file-session-io-grouping-count	**[1000..20000]**	integer optional	grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000.
file-session-io-grouping-duration	**[60..600]**	integer optional	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s.
hadoop-allow-non-root-mount		boolean optional	Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled.
idle-connection-timeout	**[120..86400]**	integer optional	Idle Connection Timeout Value (in seconds)
ignore-nt-acl-for-root		boolean optional	If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'.
is-checksum-enabled-for-replay-cache		boolean optional	Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests.
is-mount-rootonly-enabled		boolean optional	If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'.
is-netgroup-dns-domain-search		boolean optional	If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'.
is-nfs-access-enabled		boolean optional	If 'true',then NFS server access is enabled. Default value is 'true'.
is-nfs-rootonly-enabled		boolean optional	If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'.
is-nfsv2-enabled		boolean optional	Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'.
is-nfsv3-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'.
is-nfsv3-connection-drop-enabled		boolean optional	If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'.
is-nfsv3-enabled		boolean optional	If 'true', then NFS version 3 is enabled. Default value is 'true'.
is-nfsv3-fsid-change-enabled		boolean optional	If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'.
is-nfsv4-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'.
is-nfsv4-fsid-change-enabled		boolean optional	If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'.
is-nfsv4-		boolean	If 'true', then NFSv4 support for Numeric

numeric-ids-enabled		optional	Owner IDs is enabled. Default value is 'true'.
is-nfsv4-storepool-limit-enforce-enabled		boolean optional	(DEPRECATED)-If 'true', then NFS version 4 StorePool limit enforce feature is enabled. Default value is 'false'.
is-nfsv40-acl-enabled		boolean optional	If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'.
is-nfsv40-enabled		boolean optional	If 'true', then NFS version 4.0 is enabled. Default value is 'false'.
is-nfsv40-migration-enabled		boolean optional	If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'.
is-nfsv40-read-delegation-enabled		boolean optional	If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'.
is-nfsv40-referrals-enabled		boolean optional	If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'.
is-nfsv40-req-open-confirm-enabled		boolean optional	If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'.
is-nfsv40-write-delegation-enabled		boolean optional	If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'.
is-nfsv41-acl-enabled		boolean optional	If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'.
is-nfsv41-acl-preserve-enabled		boolean optional	If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances.
is-nfsv41-enabled		boolean optional	If 'true', then NFS version 4.1 is enabled. Default value is 'false'.
is-nfsv41-migration-enabled		boolean optional	If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'.
is-nfsv41-pnfs-enabled		boolean optional	If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'.
is-nfsv41-read-delegation-enabled		boolean optional	If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'.
is-nfsv41-referrals-enabled		boolean optional	If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'.
is-nfsv41-sequence-admin-revoked-enabled		boolean optional	If 'true', then NFS version 4.1 Sequence Admin Revoked support is enabled. Default value is 'false'.
is-nfsv41-state-protection-enabled		boolean optional	If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'.
is-nfsv41-trunking-enabled		boolean optional	If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'.
is-nfsv41-write-delegation-		boolean	If 'true', NFSv4.1 write delegation feature is enabled. Default value is

enabled		optional	'false'.
is-nfsv42-seclabel-enabled		boolean optional	If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'.
is-nfsv42-sparsefile-ops-enabled		boolean optional	If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'.
is-nfsv42-xattrs-enabled		boolean optional	If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'true'.
is-rdma-enabled		boolean optional	If 'true', then enable NFS access over RDMA. Default value is 'true'.
is-restrict-chmod-acl		nfsrestrictchmodacl optional	If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values: • "unrestricted" , • "restricted"
is-rquota-enabled		boolean optional	If 'true', then rquota is enabled. Default value is 'false'.
is-tcp-enabled		boolean optional	If 'true', then enable NFS access over TCP. Default value is 'true'.
is-udp-enabled		boolean optional	If 'true', then enable NFS access over UDP. Default value is 'true'.
is-v3-hide-snapshot		boolean optional	Hide .snapshot directory under NFSv3 mount point. Default value is disabled.
is-v3-ms-dos-client-enabled		boolean optional	If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'.
is-validate-qtree-export-enabled		boolean optional	If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'.
is-vstorage-enabled		boolean optional	If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'.
map-unknown-uid-to-default-windows-user		boolean optional	Map Unknown UID to Default Windows User
mountd-port	**[0..2^32-1]**	integer optional	Port that NFS mount daemon is listening to. Default value is 635.
name-service-lookup-protocol		export-lookup-protos optional	Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible values: • "tcp" , • "udp"
netgroup-trust-any-ns-switch-no-match		boolean optional	If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'.

nfsv4-acl-max-aces	**[192..1024]**	integer optional	Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400.
nfsv4-grace-seconds	**[0..2^32-1]**	integer optional	NFSv4 Grace timeout value in seconds. Default value is 45 seconds.
nfsv4-id-domain		string optional	NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'.
nfsv4-lease-seconds	**[0..2^32-1]**	integer optional	NFSv4 Lease timeout value in seconds. Default value is 30 seconds.
nfsv41-implementation-id-domain		string optional	NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'.
nfsv41-implementation-id-name		string optional	NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'.
nfsv41-implementation-id-time		date optional	NFSv4.1 Implementation id time.The number of seconds since January 1, 1970.
nfsv4x-session-num-slots	**[1..2000]**	integer optional	Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180.
nfsv4x-session-slot-reply-cache-size	**[512..4096]**	integer optional	Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640.
nlm-port	**[0..2^32-1]**	integer optional	Port that network lock manager is listening to. Default value is 4045.
nsm-port	**[0..2^32-1]**	integer optional	Port that network status monitor is listening to. Default value is 4046.
ntacl-display-permissive-perms		boolean optional	This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'.
ntfs-unix-security-ops		string optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'.
permitted-enc-types		string[] optional	List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256.
return-record		boolean optional	If set to true, returns the NFS Server on successful creation. Default: false
rpcsec-ctx-high	**[0..2^32-1]**	integer optional	High water mark for the RPCSEC_GSS Context Cache. Default value is 0.
rpcsec-ctx-idle	**[0..2^32-1]**	integer optional	Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0.
rquotad-port	**[0..2^32-1]**	integer optional	Port that NFS quota daemon is listening to. Default value is 4049.

showmount		boolean optional	If 'true', then the Vserver allows showmount. Default value is 'enabled'.
showmount-rootonly		boolean optional	Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled.
skip-root-owner-write-perm-check		boolean optional	If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'.
tcp-max-xfer-size	**[8192..1048576]**	integer optional	TCP Maximum Transfer Size (bytes). The default value is 65536
udp-max-xfer-size	**[8192..57344]**	integer optional	UDP Maximum Transfer Size (bytes). The default value is 32768.
v3-search-unconverted-filename		boolean optional	Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled.
v4-inherited-acl-preserve		boolean optional	Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled.

Output Name	Range	Type	Description
result		nfs-info optional	The NFS Server created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nfs-service-destroy

[top]

Delete an NFS configuration.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nfs-service-get

[top]

Get the NFS server configuration.

Input Name	Range	Type	Description

desired-attributes		nfs-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		nfs-info	The attributes of the NFS Server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

nfs-service-get-create-defaults

[top]

Obtain the default values for NFS server configuration.

Input Name	Range	Type	Description
attributes		nfs-info optional	Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute.

Output Name	Range	Type	Description
defaults		nfs-info	The default attributes for the NFS Server.

nfs-service-get-iter

[top]

Iterate over the list of NFS servers.

Input Name	Range	Type	Description
desired-attributes		nfs-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		nfs-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NFS Server object. All NFS Server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nfs-info[]	The list of attributes of NFS Server objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more NFS Server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nfs-service-modify

[top]

Modify an NFS configuration. If no values are given, the NFS configuration is not modified.

Input Name	Range	Type	Description
allow-idle-connection-timeout		boolean optional	Are Idle NFS Connections Supported
auth-sys-extended-groups		boolean optional	If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'.
cached-cred-harvest-timeout	**[60000..604800000]**	integer optional	Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-cred-negative-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms.
cached-cred-positive-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms.
cached-transient-err-ttl	**[30000..300000]**	integer optional	Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms.
chown-mode		nfschownmode optional	Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values: • "restricted" , • "unrestricted" , • "use_export_policy"
default-windows-group		string optional	The default windows group for CIFS access.
default-windows-user		string optional	The default windows user for CIFS access.

enable-ejukebox		boolean optional	If 'true', then the NFS server will send EJUKEBOX error on server delays.
extended-groups-limit	**[32..1024]**	integer optional	Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32.
file-session-io-grouping-count	**[1000..20000]**	integer optional	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000.
file-session-io-grouping-duration	**[60..600]**	integer optional	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s.
hadoop-allow-non-root-mount		boolean optional	Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled.
idle-connection-timeout	**[120..86400]**	integer optional	Idle Connection Timeout Value (in seconds)
ignore-nt-acl-for-root		boolean optional	If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'.
is-checksum-enabled-for-replay-cache		boolean optional	Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests.
is-mount-rootonly-enabled		boolean optional	If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'.
is-netgroup-dns-domain-search		boolean optional	If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'.
is-nfs-access-enabled		boolean optional	If 'true',then NFS server access is enabled. Default value is 'true'.
is-nfs-rootonly-enabled		boolean optional	If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'.
is-nfsv2-enabled		boolean optional	Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'.
is-nfsv3-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'.
is-nfsv3-connection-drop-enabled		boolean optional	If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'.
is-nfsv3-enabled		boolean optional	If 'true', then NFS version 3 is enabled. Default value is 'true'.

is-nfsv3-fsid-change-enabled		boolean optional	If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'.
is-nfsv4-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'.
is-nfsv4-fsid-change-enabled		boolean optional	If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'.
is-nfsv4-numeric-ids-enabled		boolean optional	If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'.
is-nfsv4-storepool-limit-enforce-enabled		boolean optional	(DEPRECATED)-If 'true', then NFS version 4 StorePool limit enforce feature is enabled. Default value is 'false'.
is-nfsv40-acl-enabled		boolean optional	If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'.
is-nfsv40-enabled		boolean optional	If 'true', then NFS version 4.0 is enabled. Default value is 'false'.
is-nfsv40-migration-enabled		boolean optional	If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'.
is-nfsv40-read-delegation-enabled		boolean optional	If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'.
is-nfsv40-referrals-enabled		boolean optional	If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'.
is-nfsv40-req-open-confirm-enabled		boolean optional	If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'.
is-nfsv40-write-delegation-enabled		boolean optional	If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'.
is-nfsv41-acl-enabled		boolean optional	If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'.
is-nfsv41-acl-preserve-enabled		boolean optional	If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances.
is-nfsv41-enabled		boolean optional	If 'true', then NFS version 4.1 is enabled. Default value is 'false'.
is-nfsv41-migration-enabled		boolean optional	If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'.
is-nfsv41-pnfs-enabled		boolean optional	If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'.
is-nfsv41-read-delegation-enabled		boolean optional	If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'.
is-nfsv41-referrals-enabled		boolean optional	If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'.
is-nfsv41-sequence-		boolean	If 'true', then NFS version 4.1 Sequence

admin-revoked-enabled		optional	Admin Revoked support is enabled. Default value is 'false'.
is-nfsv41-state-protection-enabled		boolean optional	If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'.
is-nfsv41-trunking-enabled		boolean optional	If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'.
is-nfsv41-write-delegation-enabled		boolean optional	If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'.
is-nfsv42-seclabel-enabled		boolean optional	If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'.
is-nfsv42-sparsefile-ops-enabled		boolean optional	If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'.
is-nfsv42-xattrs-enabled		boolean optional	If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'true'.
is-rdma-enabled		boolean optional	If 'true', then enable NFS access over RDMA. Default value is 'true'.
is-restrict-chmod-acl		nfsrestrictchmodacl optional	If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values: • "unrestricted" , • "restricted"
is-rquota-enabled		boolean optional	If 'true', then rquota is enabled. Default value is 'false'.
is-tcp-enabled		boolean optional	If 'true', then enable NFS access over TCP. Default value is 'true'.
is-udp-enabled		boolean optional	If 'true', then enable NFS access over UDP. Default value is 'true'.
is-v3-hide-snapshot		boolean optional	Hide .snapshot directory under NFSv3 mount point. Default value is disabled.
is-v3-ms-dos-client-enabled		boolean optional	If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'.
is-validate-qtree-export-enabled		boolean optional	If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'.
is-vstorage-enabled		boolean optional	If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'.
map-unknown-uid-to-default-windows-user		boolean optional	Map Unknown UID to Default Windows User
mountd-port	**[0..2^32-1]**	integer optional	Port that NFS mount daemon is listening to. Default value is 635.
			Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible

name-service-lookup-protocol		export-lookup-protos optional	values: • "tcp" , • "udp"
netgroup-trust-any-ns-switch-no-match		boolean optional	If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'.
nfsv4-acl-max-aces	**[192..1024]**	integer optional	Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400.
nfsv4-grace-seconds	**[0..2^32-1]**	integer optional	NFSv4 Grace timeout value in seconds. Default value is 45 seconds.
nfsv4-id-domain		string optional	NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'.
nfsv4-lease-seconds	**[0..2^32-1]**	integer optional	NFSv4 Lease timeout value in seconds. Default value is 30 seconds.
nfsv41-implementation-id-domain		string optional	NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'.
nfsv41-implementation-id-name		string optional	NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'.
nfsv41-implementation-id-time		date optional	NFSv4.1 Implementation id time.The number of seconds since January 1, 1970.
nfsv4x-session-num-slots	**[1..2000]**	integer optional	Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180.
nfsv4x-session-slot-reply-cache-size	**[512..4096]**	integer optional	Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640.
nlm-port	**[0..2^32-1]**	integer optional	Port that network lock manager is listening to. Default value is 4045.
nsm-port	**[0..2^32-1]**	integer optional	Port that network status monitor is listening to. Default value is 4046.
ntacl-display-permissive-perms		boolean optional	This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'.
ntfs-unix-security-ops		string optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'.
permitted-enc-types		string[] optional	List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des,

			des-3, aes-128, and aes-256.
rpcsec-ctx-high	**[0..2^32-1]**	integer optional	High water mark for the RPCSEC_GSS Context Cache. Default value is 0.
rpcsec-ctx-idle	**[0..2^32-1]**	integer optional	Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0.
rquotad-port	**[0..2^32-1]**	integer optional	Port that NFS quota daemon is listening to. Default value is 4049.
showmount		boolean optional	If 'true', then the Vserver allows showmount. Default value is 'enabled'.
showmount-rootonly		boolean optional	Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled.
skip-root-owner-write-perm-check		boolean optional	If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'.
tcp-max-xfer-size	**[8192..1048576]**	integer optional	TCP Maximum Transfer Size (bytes). The default value is 65536
udp-max-xfer-size	**[8192..57344]**	integer optional	UDP Maximum Transfer Size (bytes). The default value is 32768.
v3-search-unconverted-filename		boolean optional	Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled.
v4-inherited-acl-preserve		boolean optional	Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nfs-stats-get-client-stats

[top]

Collects NFS statistics for a specified client

Input Name	Range	Type	Description
host		string	Hostname or IP address of client

Output Name	Range	Type	Description
client-info		string	Hostname or IP address of client
nfs-stats		nfs-stats-info	detailed statistics for each NFS operation
rpc-stats		rpc-stats-info	detailed statistics for RPC operations
tcp-flowcontrol-stats		tcp-flowcontrol-stats-info	detailed statistics for TCP flowcontrol

Errno	Description
ENFS_CLIENT_STATS_NOT_ENABLED	
ENOACTIVECLIENTS	
EHOSTNOTFOUND	

Vfiler-enabled
Yes

License
nfs

nfs-stats-top-clients-list-iter-end

[top]

Terminate NFS client statistics iteration and cleanup any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous nfs-stats-top-clients-list-iter-start

Vfiler-enabled
Yes

License
nfs

nfs-stats-top-clients-list-iter-next

[top]

Continues the nfs-stats-top-clients-list-iter-start iteration through the top NFS clients, ordered by total NFS operations.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range : [0..2^32-1].
tag		string	Tag from a previous nfs-stats-top-iter-start

Output Name	Range	Type	Description
nfs-top		nfs-top-info[]	An array, one entry per nfs top.
records		integer	This tells you how many records are being returned from this particular call to nfs-stats-top-client-list-iter-next When this value is 0, you have retrieved everything. Range : [0..2^32-1].

Vfiler-enabled
Yes

License
nfs

nfs-stats-top-clients-list-iter-start

[top]

Starts an iteration through the top NFS clients, ordered by total NFS operations.

Input Name	Range	Type	Description
maxclients		integer optional	Specifies the maximum number of top clients to retrieve (the default is 20) Range : [1..2^32-1].

Output Name	Range	Type	Description
records		integer	Number which tells you how many items have been saved for future retrieval with nfs-stats-top-clients-list-iter-next Range : [0..2^32-1]
tag		string	Tag to be used in subsequent calls to nfs-stats-top-clients-list-iter-next

Errno	Description
ENFS_CLIENT_STATS_NOT_ENABLED	
ECLIENTSTATSVFILER	
ENOACTIVECLIENTS	
EAPIERROR	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

License
nfs

nfs-stats-zero-stats

[top]

Set all NFS statistcs to zero

Vfiler-enabled
Yes

License
nfs

nfs-status

[top]

Returns the status of the NFS server.

Output Name	Range	Type	Description
is-drained		boolean	If true, then the NFS server has been disabled and all NFS messages have been drained. In Data ONTAP Cluster-Mode, there is no way of finding out if the NFS messages have been drained. Hence this field will always be false.
is-enabled		boolean	True if NFS server is running.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

License
nfs

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

Name	Range	Type	Description
all-hosts		boolean optional	Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array.
			A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS.

name		string optional	netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.'
negate		boolean optional	In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true.

Element definition: **exports-rule-info**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the exportfs command. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

Name	Range	Type	Description
actual-pathname		string optional	In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string.
anon		string optional	All hosts with this user-id or username have root access to this directory.
nosuid		boolean optional	If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false.
pathname		string	In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").
read-only		exports-hostname-info[] optional	An array of hostnames which only have read privileges.
read-write		exports-hostname-info[] optional	An array of hostnames which have read and write privileges. Any hostname in read-only must not be in read-write also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'.
root		exports-hostname-info[] optional	Array of hostnames which have roots with 'read-write' or 'read-only' privileges.
sec-flavor		sec-flavor-info[] optional	List of possible security flavors this rule supports. Default security is "sys". Possible values are: • "none" • "sys" • "krb5" • "krb5i" • "krb5p"

Element definition: **exports-rule-info-2**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the exportfs command.

Name	Range	Type	Description
actual-pathname		string optional	In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string.
pathname		string	In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").
security-rules		security-rule-info[]	Access block information for lists of hosts.

Element definition: **hostaddr**

[top]

the individual client hosts. could be a hostname or an IP address.

[none]

Element definition: **nfs-info**

[top]

Information about NFS server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allow-idle-connection-timeout		boolean optional	Are Idle NFS Connections Supported Attributes: optional-for-create, modifiable
auth-sys-extended-groups		boolean optional	If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. Attributes: optional-for-create, modifiable
cached-cred-harvest-timeout	**[60000..604800000]**	integer optional	Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable

cached-cred-negative-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. Attributes: optional-for-create, modifiable
cached-cred-positive-ttl	**[60000..604800000]**	integer optional	Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable
cached-transient-err-ttl	**[30000..300000]**	integer optional	Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. Attributes: optional-for-create, modifiable
chown-mode		nfschownmode optional	Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable Possible values: • "restricted" , • "unrestricted" , • "use_export_policy"
default-windows-group		string optional	The default windows group for CIFS access. Attributes: optional-for-create, modifiable
default-windows-user		string optional	The default windows user for CIFS access. Attributes: optional-for-create, modifiable
enable-ejukebox		boolean optional	If 'true', then the NFS server will send EJUKEBOX error on server delays. Attributes: optional-for-create, modifiable
extended-groups-limit	**[32..1024]**	integer optional	Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32. Attributes: optional-for-create, modifiable
file-session-io-grouping-count	**[1000..20000]**	integer optional	Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. Attributes: optional-for-create, modifiable
file-session-io-grouping-duration	**[60..600]**	integer optional	The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. Attributes: optional-for-create, modifiable

hadoop-allow-non-root-mount		boolean optional	Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. Attributes: optional-for-create, modifiable
idle-connection-timeout	**[120..86400]**	integer optional	Idle Connection Timeout Value (in seconds) Attributes: optional-for-create, modifiable
ignore-nt-acl-for-root		boolean optional	If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. Attributes: optional-for-create, modifiable
is-checksum-enabled-for-replay-cache		boolean optional	Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. Attributes: optional-for-create, modifiable
is-mount-rootonly-enabled		boolean optional	If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. Attributes: optional-for-create, modifiable
is-netgroup-dns-domain-search		boolean optional	If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfs-access-enabled		boolean optional	If 'true',then NFS server access is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfs-rootonly-enabled		boolean optional	If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv2-enabled		boolean optional	Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv3-64bit-identifiers-enabled		boolean optional	If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv3-connection-drop-enabled		boolean optional	If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv3-enabled		boolean optional	If 'true', then NFS version 3 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv3-fsid-change-enabled		boolean optional	If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-64bit-identifiers-		boolean	If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers.

enabled		optional	Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-fsid-change-enabled		boolean optional	If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-numeric-ids-enabled		boolean optional	If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv4-storepool-limit-enforce-enabled		boolean optional	(DEPRECATED)-If 'true', then NFS version 4 StorePool limit enforce feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-acl-enabled		boolean optional	If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-enabled		boolean optional	If 'true', then NFS version 4.0 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-migration-enabled		boolean optional	If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-read-delegation-enabled		boolean optional	If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-referrals-enabled		boolean optional	If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-req-open-confirm-enabled		boolean optional	If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv40-write-delegation-enabled		boolean optional	If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-acl-enabled		boolean optional	If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-acl-preserve-enabled		boolean optional	If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. Attributes: optional-for-create, modifiable
is-nfsv41-enabled		boolean optional	If 'true', then NFS version 4.1 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-		boolean	If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'.

migration-enabled		optional	Attributes: optional-for-create, modifiable
is-nfsv41-pnfs-enabled		boolean optional	If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv41-read-delegation-enabled		boolean optional	If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-referrals-enabled		boolean optional	If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-sequence-admin-revoked-enabled		boolean optional	If 'true', then NFS version 4.1 Sequence Admin Revoked support is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-state-protection-enabled		boolean optional	If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-nfsv41-trunking-enabled		boolean optional	If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv41-write-delegation-enabled		boolean optional	If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv42-seclabel-enabled		boolean optional	If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv42-sparsefile-ops-enabled		boolean optional	If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. Attributes: optional-for-create, modifiable
is-nfsv42-xattrs-enabled		boolean optional	If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable
is-qtree-export-enabled		boolean optional	If 'true', then the Vserver allows qtree exports (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable
is-qtree-qos-enabled		boolean optional	If 'true', then the Vserver allows qtree QoS (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable
is-rdma-enabled		boolean optional	If 'true', then enable NFS access over RDMA. Default value is 'true'. Attributes: optional-for-create, modifiable
			If 'restricted', then the Vserver restricts setting modebits and Acls for non-

is-restrict-chmod-acl		nfsrestrictchmodacl optional	susperuser. Default value is 'unrestricted'. Attributes: optional-for-create, modifiable Possible values: • "unrestricted" , • "restricted"
is-rquota-enabled		boolean optional	If 'true', then rquota is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable
is-tcp-enabled		boolean optional	If 'true', then enable NFS access over TCP. Default value is 'true'. Attributes: optional-for-create, modifiable
is-udp-enabled		boolean optional	If 'true', then enable NFS access over UDP. Default value is 'true'. Attributes: optional-for-create, modifiable
is-v3-hide-snapshot		boolean optional	Hide .snapshot directory under NFSv3 mount point. Default value is disabled. Attributes: optional-for-create, modifiable
is-v3-ms-dos-client-enabled		boolean optional	If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. Attributes: optional-for-create, modifiable
is-validate-qtree-export-enabled		boolean optional	If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. Attributes: optional-for-create, modifiable
is-vstorage-enabled		boolean optional	If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. Attributes: optional-for-create, modifiable
map-unknown-uid-to-default-windows-user		boolean optional	Map Unknown UID to Default Windows User Attributes: optional-for-create, modifiable
mountd-port	**[0..2^32-1]**	integer optional	Port that NFS mount daemon is listening to. Default value is 635. Attributes: optional-for-create, modifiable
name-service-lookup-protocol		export-lookup-protos optional	Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Attributes: optional-for-create, modifiable Possible values: • "tcp" , • "udp"
netgroup-trust-any-ns-switch-no-match		boolean optional	If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. Attributes: optional-for-create, modifiable
nfsv4-acl-max-aces	**[192..1024]**	integer optional	Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. Attributes: optional-for-create,

			modifiable
nfsv4-grace-seconds	**[0..2^32-1]**	integer optional	NFSv4 Grace timeout value in seconds. Default value is 45 seconds. Attributes: optional-for-create, modifiable
nfsv4-id-domain		string optional	NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. Attributes: optional-for-create, modifiable
nfsv4-lease-seconds	**[0..2^32-1]**	integer optional	NFSv4 Lease timeout value in seconds. Default value is 30 seconds. Attributes: optional-for-create, modifiable
nfsv41-implementation-id-domain		string optional	NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. Attributes: optional-for-create, modifiable
nfsv41-implementation-id-name		string optional	NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. Attributes: optional-for-create, modifiable
nfsv41-implementation-id-time		date optional	NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. Attributes: optional-for-create, modifiable
nfsv4x-session-num-slots	**[1..2000]**	integer optional	Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. Attributes: optional-for-create, modifiable
nfsv4x-session-slot-reply-cache-size	**[512..4096]**	integer optional	Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. Attributes: optional-for-create, modifiable
nlm-port	**[0..2^32-1]**	integer optional	Port that network lock manager is listening to. Default value is 4045. Attributes: optional-for-create, modifiable
nsm-port	**[0..2^32-1]**	integer optional	Port that network status monitor is listening to. Default value is 4046. Attributes: optional-for-create, modifiable
ntacl-display-permissive-perms		boolean optional	This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. Attributes: optional-for-create, modifiable
ntfs-unix-security-ops		string optional	Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable

permitted-enc-types		string[] optional	List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. Attributes: optional-for-create, modifiable
rpcsec-ctx-high	**[0..2^32-1]**	integer optional	High water mark for the RPCSEC_GSS Context Cache. Default value is 0. Attributes: optional-for-create, modifiable
rpcsec-ctx-idle	**[0..2^32-1]**	integer optional	Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. Attributes: optional-for-create, modifiable
rquotad-port	**[0..2^32-1]**	integer optional	Port that NFS quota daemon is listening to. Default value is 4049. Attributes: optional-for-create, modifiable
showmount		boolean optional	If 'true', then the Vserver allows showmount. Default value is 'enabled'. Attributes: optional-for-create, modifiable
showmount-rootonly		boolean optional	Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. Attributes: optional-for-create, modifiable
showmount-timestamp	**[0..2^31-1]**	integer optional	timestamp to indicate whether we want to update exports data file or not Attributes: non-creatable, non-modifiable
skip-root-owner-write-perm-check		boolean optional	If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'. Attributes: optional-for-create, modifiable
tcp-max-xfer-size	**[8192..1048576]**	integer optional	TCP Maximum Transfer Size (bytes). The default value is 65536 Attributes: optional-for-create, modifiable
udp-max-xfer-size	**[8192..57344]**	integer optional	UDP Maximum Transfer Size (bytes). The default value is 32768. Attributes: optional-for-create, modifiable
v3-search-unconverted-filename		boolean optional	Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. Attributes: optional-for-create, modifiable
v4-inherited-acl-preserve		boolean optional	Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **nfs-stats-info**

[top]

structure containing statistics for each NFS version

Name	Range	Type	Description
badcalls-total		integer	total bad NFS calls Range : [0..2^32-1].
calls-total		integer	total NFS calls Range : [0..2^64-1].
nfsv2-client-stats		nfsv2-client-stats-info	detailed statistics for NFSv2 operations
nfsv3-client-stats		nfsv3-client-stats-info	detailed statistics for NFSv3 operations
nfsv4-client-stats		nfsv4-client-stats-info	detailed statistics for NFSv4 operations

Element definition: **nfs-top-info**

[top]

Information about a single nfs top.

Name	Range	Type	Description
client-info		string	Client IP address
create-ops		integer	The number of nfs CREATE operations Range : [0..2^64-1].
getattr-ops		integer	The number of nfs GETATTR operations Range : [0..2^64-1].
lookup-ops		integer	The number of nfs LOOKUP operations Range : [0..2^64-1].
read-ops		integer	The number of nfs READ operations Range : [0..2^64-1].
readdir-ops		integer	The number of nfs READDIR and READIDRPLUS operations Range : [0..2^64-1].
readlink-ops		integer	The number of nfs READLINK operations Range : [0..2^64-1].
remove-ops		integer	The number of nfs REMOVE operations Range : [0..2^64-1].
total-ops		integer	The number of nfs operations Range : [0..2^64-1].
write-ops		integer	The number of nfs WRITE operations Range : [0..2^64-1].

Element definition: **nfschownmode**

[top]

restricted|unrestricted|use-export-policy Possible values:

- "restricted" ,
- "unrestricted" ,
- "use_export_policy"

[none]

Element definition: **nfsrestrictchmodacl**

[top]

unrestricted|restricted Possible values:

- "unrestricted" ,
- "restricted"

[none]

Element definition: **owner-info**

[top]

Information about the client host and the owner process on the client host whose locks have to be removed.

Name	Range	Type	Description
client-host		string	client host on which the locks have to be removed.
client-host-pid		string	process owner on the above client host whose locks have to be removed.

Element definition: **pathname-info**

[top]

Information about a pathname.

Name	Range	Type	Description
name		string	In Data ONTAP 7-Mode, it must be the name of the path, such as "/vol/vol0". In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0").

Element definition: **rpc-stats-info**

[top]

structure containing statistics for RPC operations

Name	Range	Type	Description
tcp-info		rpc-data-info	detailed statistics for RPC over TCP operations
udp-info		rpc-data-info	detailed statistics for RPC over UDP operations

Element definition: **sec-flavor-info**

[top]

Sec flavor info

Name	Range	Type	Description
flavor		string optional	Security_Flavor Attributes: key, non-creatable, non-modifiable

Element definition: **tcp-flowcontrol-stats-info**

[top]

structure containing statistics for tcp flowcontrol

Name	Range	Type	Description
receive-out-total		integer	total number of times output was flow controlled on receive Range : [0..2^32-1].
receive-total		integer	total number of times input was flow controlled on receive Range : [0..2^32-1].
transmit-out-total		integer	total number of times output was flow controlled on transmit Range : [0..2^32-1].
transmit-total		integer	total number of times input was flow controlled on transmit Range : [0..2^32-1].

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

Name	Range	Type	Description
all-hosts		boolean optional	Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array.
name		string optional	A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the

			numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.'
negate		boolean optional	In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true.

Element definition: **nfsv2-client-stats-info**

[top]

structure containing statistics for NFSv2 operations

Name	Range	Type	Description
create-ops		integer	total 'create' NFSv2 operations Range : [0..2^64-1].
getattr-ops		integer	total 'getattr' NFSv2 operation Range : [0..2^64-1].
link-ops		integer	total 'link' NFSv2 operations Range : [0..2^64-1].
lookup-ops		integer	total 'lookup' NFSv2 operations Range : [0..2^64-1].
mkdir-ops		integer	total 'mkdir' NFSv2 operations Range : [0..2^64-1].
null-ops		integer	total 'null' NFSv2 operations Range : [0..2^64-1].
read-ops		integer	total 'read' NFSv2 operations Range : [0..2^64-1].
readdir-ops		integer	total 'readdir' NFSv2 operations Range : [0..2^64-1].
readlink-ops		integer	total 'readlink' NFSv2 operations Range : [0..2^64-1].
remove-ops		integer	total 'remove' NFSv2 operations Range : [0..2^64-1].
rename-ops		integer	total 'rename' NFSv2 operations Range : [0..2^64-1].
rmdir-ops		integer	total 'rmdir' NFSv2 operations Range : [0..2^64-1].
root-ops		integer	total 'root' NFSv2 operations Range : [0..2^64-1].
setattr-ops		integer	total 'setattr' NFSv2 operations Range : [0..2^64-1].
statfs-ops		integer	total 'statfs' NFSv2 operations Range : [0..2^64-1].
symlink-ops		integer	total 'symlink' NFSv2 operations Range : [0..2^64-1].
wrcache-ops		integer	total 'wrcache' NFSv2 operations Range : [0..2^64-1].
write-ops		integer	total 'write' NFSv2 operations Range : [0..2^64-1].

Element definition: **nfsv3-client-stats-info**

[top]

structure containing statistics for NFSv3 operations

Name	Range	Type	Description
access-ops		integer	total 'access' NFSv3 operations Range : [0..2^64-1].
commit-ops		integer	total 'commit' NFSv3 operations Range : [0..2^64-1].
create-ops		integer	total 'create' NFSv3 operations Range : [0..2^64-1].
fsinfo-ops		integer	total 'fsinfo' NFSv3 operations Range : [0..2^64-1].
fsstat-ops		integer	total 'fsstat' NFSv3 operations Range : [0..2^64-1].
getattr-ops		integer	total 'getattr' NFSv3 operations Range : [0..2^64-1].
link-ops		integer	total 'link' NFSv3 operations Range : [0..2^64-1].
lookup-ops		integer	total 'lookup' NFSv3 operations Range : [0..2^64-1].
mkdir-ops		integer	total 'mkdir' NFSv3 operations Range : [0..2^64-1].

mknod-ops		integer	total 'mknod' NFSv3 operations Range : [0..2^64-1].
null-ops		integer	total 'null' NFSv3 operations Range : [0..2^64-1].
pathconf-ops		integer	total 'pathconf' NFSv3 operations Range : [0..2^64-1].
read-ops		integer	total 'read' NFSv3 operations Range : [0..2^64-1].
readdir-ops		integer	total 'readdir' NFSv3 operations Range : [0..2^64-1].
readdirplus-ops		integer	total 'readdirplus' NFSv3 operations Range : [0..2^64-1].
readlink-ops		integer	total 'readlink' NFSv3 operations Range : [0..2^64-1].
remove-ops		integer	total 'remove' NFSv3 operations Range : [0..2^64-1].
rename-ops		integer	total 'rename' NFSv3 operations Range : [0..2^64-1].
rmdir-ops		integer	total 'rmdir' NFSv3 operations Range : [0..2^64-1].
setattr-ops		integer	total 'setattr' NFSv3 operations Range : [0..2^64-1].
symlink-ops		integer	total 'symlink' NFSv3 operations Range : [0..2^64-1].
write-ops		integer	total 'write' NFSv3 operations Range : [0..2^64-1].

Element definition: **nfsv4-client-stats-info**

[top]

structure containing statistics for NFSv4 operations

Name	Range	Type	Description
access-ops		integer optional	total 'access' NFSv4 operations Range : [0..2^64-1].
acls-set-total		integer optional	number of ACLs set on files Range : [0..2^32-1].
badproc2-ops		integer optional	total 'badproc2' NFSv4 operations Range : [0..2^64-1].
close-ops		integer optional	total 'close' NFSv4 operations Range : [0..2^64-1].
commit-ops		integer optional	total 'commit' NFSv4 operations Range : [0..2^64-1].
compound-ops		integer optional	total 'compound' NFSv4 operations Range : [0..2^64-1].
create-ops		integer optional	total 'create' NFSv4 operations Range : [0..2^64-1].
delegpurge		integer optional	total 'delegpurge' NFSv4 operations Range : [0..2^64-1].
delegret-ops		integer optional	total 'delegret' NFSv4 operations Range : [0..2^64-1].
getattr-ops		integer optional	total 'getattr' NFSv4 operations Range : [0..2^64-1].
getfh-ops		integer optional	total 'getfh' NFSv4 operations Range : [0..2^64-1].
link-ops		integer optional	total 'link' NFSv4 operations Range : [0..2^64-1].
lock-ops		integer optional	total 'lock' NFSv4 operations Range : [0..2^64-1].
lockt-ops		integer optional	total 'lockt' NFSv4 operations Range : [0..2^64-1].
locku-ops		integer optional	total 'locku' NFSv4 operations Range : [0..2^64-1].

lookup-ops		integer optional	total 'lookup' NFSv4 operations Range : [0..2^64-1].
lookupp-ops		integer optional	total 'lookupp' NFSv4 operations Range : [0..2^64-1].
no-delegation-total		integer optional	total calls where a delegation could not be granted Range : [0..2^32-1].
null-ops		integer optional	total 'null' NFSv4 operations Range : [0..2^64-1].
nverify-ops		integer optional	total 'nverify' NFSv4 operations Range : [0..2^64-1].
open-confirm-ops		integer optional	total 'open_confirm' NFSv4 operations Range : [0..2^64-1].
open-downgrade-ops		integer optional	total 'open_downgrade' NFSv4 operations Range : [0..2^64-1].
open-ops		integer optional	total 'open' NFSv4 operations Range : [0..2^64-1].
openattr-ops		integer optional	total 'openattr' NFSv4 operations Range : [0..2^64-1].
putfh-ops		integer optional	total 'putfh' NFSv4 operations Range : [0..2^64-1].
putpubfh-ops		integer optional	total 'putpubfh' NFSv4 operations Range : [0..2^64-1].
putrootfh-ops		integer optional	total 'putrootfh' NFSv4 operations Range : [0..2^64-1].
read-delegation-total		integer optional	total calls where a read delegation was granted Range : [0..2^32-1].
read-ops		integer optional	total 'read' NFSv4 operations Range : [0..2^64-1].
readdir-ops		integer optional	total 'readdir' NFSv4 operations Range : [0..2^64-1].
readlink-ops		integer optional	total 'readlink' NFSv4 operations Range : [0..2^64-1].
remove-ops		integer optional	total 'remove' NFSv4 operations Range : [0..2^64-1].
rename-ops		integer optional	total 'rename' NFSv4 operations Range : [0..2^64-1].
renew-ops		integer optional	total 'renew' NFSv4 operations Range : [0..2^64-1].
restorefh-ops		integer optional	total 'restorefh' NFSv4 operations Range : [0..2^64-1].
rlsowner-ops		integer optional	total 'rlsowner' NFSv4 operations Range : [0..2^64-1].
savefh-ops		integer optional	total 'savefh' NFSv4 operations Range : [0..2^64-1].
secinfo-ops		integer optional	total 'secinfo' NFSv4 operations Range : [0..2^64-1].
setattr-ops		integer optional	total 'setattr' NFSv4 operations Range : [0..2^64-1].
setclntid-cfm-ops		integer optional	total 'setclntid_cfm' NFSv4 operations Range : [0..2^64-1].
setclntid-ops		integer optional	total 'setclntid' NFSv4 operations Range : [0..2^64-1].
verify-ops		integer optional	total 'verify' NFSv4 operations Range : [0..2^64-1].

write-delegation-total		integer optional	total calls where a write delegation was granted Range : [0..2^32-1].
write-ops		integer optional	total 'write' NFSv4 operations Range : [0..2^64-1].

Element definition: **rpc-data-info**

[top]

structure containing statisticcs for RPC operations

Name	Range	Type	Description
badcalls-total		integer	total bad RPC calls Range : [0..2^32-1].
badlen-total		integer	total badlen RPC calls Range : [0..2^32-1].
calls-total		integer	total RPC calls Range : [0..2^64-1].
nullrecv-total		integer	total nullrecv RPC calls Range : [0..2^32-1].
xdrcall-total		integer	total badhdr RPC calls Range : [0..2^32-1].

Element definition: **security-rule-info**

[top]

Information on hostnames and security availability for the hosts. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

Name	Range	Type	Description
anon		string optional	All hosts with this user-id or username have root access to this directory.
nosuid		boolean optional	If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false.
read-only		exports-hostname-info[] optional	An array of hostnames which only have read privileges for all the security flavors found in the sec-flavor list.
read-write		exports-hostname-info[] optional	An array of hostnames which have read and write privileges for all the security flavors found in the 'sec-flavor list'. Any hostname in 'read-only' must not be in 'read-write' also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'.
root		exports-hostname-info[] optional	Array of hostnames which have roots with 'read-write' or 'read-only' privileges.
sec-flavor		sec-flavor-info[] optional	List of possible security flavors this rule supports. Default security is "sys". Possible values are: • "none" • "sys" • "krb5" • "krb5i" • "krb5p"

Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

Name	Range	Type	Description
all-hosts		boolean optional	Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array.
name		string optional	A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.'
negate		boolean optional	In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true.

Element definition: **sec-flavor-info**

[top]

Sec flavor info

Name	Range	Type	Description
flavor		string optional	Security_Flavor Attributes: key, non-creatable, non-modifiable

APIs in Category: **nis**

nis-create
nis-destroy
nis-get
nis-get-iter
nis-modify

nis-create

[top]

Create an NIS domain configuration. Multiple NIS domains can be configured on a single Vserver, but only one NIS domain can be active at any given time.

Input Name	Range	Type	Description
is-active		boolean optional	(DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'
nis-fqdn		string[] optional	Specifies the hostname/IP address of one or more NIS servers in the domain.
nis-servers		ip-address[] optional	(DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain.
return-record		boolean optional	If set to true, returns the NIS domain configuration on successful creation. Default: false
skip-config-validation		boolean optional	If true, validation of the the corresponding NIS configuration will be skipped.

Output Name	Range	Type	Description
result		nis-domain-config-info optional	The NIS domain configuration created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NIS_CONFIGURATION_EXISTS	
E_NIS_ACTIVE_FALSE_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nis-destroy

[top]

Destroy an existing NIS configuration.

Input Name	Range	Type	Description
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nis-get

[top]

Get NIS domain configuration.

Input Name	Range	Type	Description
desired-attributes		nis-domain-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'

Output Name	Range	Type	Description
attributes		nis-domain-config-info	The attributes of the NIS domain configuration.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINTERNALERROR	

nis-get-iter

[top]

Iterate over a list of NIS configurations.

Input Name	Range	Type	Description
desired-attributes		nis-domain-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20

query		nis-domain-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NIS domain configuration object. All NIS domain configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nis-domain-config-info[] optional	The list of attributes of NIS domain configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NIS domain configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNTFOUND	

nis-modify

[top]

Modify the attributes of NIS configuration.

Input Name	Range	Type	Description
is-active		boolean optional	(DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive.
nis-domain		string	Specifies the NIS domain. For example: 'example.com'
nis-fqdn		string[] optional	Specifies the hostname/IP address of one or more NIS servers in the domain.
nis-servers		ip-address[] optional	(DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain.
skip-config-validation		boolean optional	If true, validation of the the corresponding NIS configuration will be skipped.

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
E_NIS_ACTIVE_FALSE_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **nis-domain-config-info**

[top]

NIS domain configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-active		boolean optional	(DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. Attributes: optional-for-create, modifiable
nis-domain		string optional	Specifies the NIS domain. For example: 'example.com' Attributes: key, required-for-create, non-modifiable
nis-fqdn		string[] optional	Specifies the hostname/IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable
nis-servers		ip-address[] optional	(DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable
skip-config-validation		boolean optional	If true, validation of the the corresponding NIS configuration will be skipped. Attributes: optional-for-create, modifiable
vserver		string optional	Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

APIs in Category: **ntp-server**

ntp-server-create
ntp-server-delete
ntp-server-get
ntp-server-get-iter
ntp-server-key-create
ntp-server-key-delete
ntp-server-key-get-iter
ntp-server-key-modify
ntp-server-modify
ntp-server-reset
ntp-server-security-get
ntp-server-security-set
ntp-server-status-get
ntp-server-status-get-iter
ntp-server-validate

This is an auto generated category.

ntp-server-create

[top]

Creates a configuration for an external time server to be used by NTP.

Input Name	Range	Type	Description
is-preferred		boolean optional	Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set.
key-id	**[1..65535]**	integer optional	Specifies the symmetric authentication key ID being used for this time server.
return-record		boolean optional	If set to true, returns the ntp server configuration on successful creation. Default: false
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server
version		string optional	NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value.

Output Name	Range	Type	Description
result		ntp-server-info optional	The ntp server configuration created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
EDUPLICATEENTRY	

ENTP_USE_NODE_SCOPE	
ENTP_INVALID_SERVER_NAME	
ENTP_INVALID_IPV4_ADDR	
ENTP_INVALID_IPV6_ADDR	
ENTP_SERVER_NAME_NOTFOUND	
ENTP_SERVER_NAME_ADDRS	
ENTP_NO_CONNECT	
ENTP_NO_QUICKREPLY	
ENTP_REPLY_NO_SYNC	
ENTP_REPLY_NO_ACCES	
ENTP_REPLY_NO_CRYPTO	
ENTP_REPLY_PROTOCOL	
ENTP_REPLY_ROOT_DIST	
ENTP_REPLY_ROOT_DISP	
ENTP_REPLY_PEER_DIST	
ENTP_REPLY_PEER_DISP	
ENTP_REPLY_PEER_STRATUM	
ENTP_NEEDS_9_5_0	
ENTP_INVALID_FIELD_AUTH_ENABLED	
ENTP_AUTH_NOT_IN_CLUSTER	
ENTP_AUTH_UNKNOWN_KEY	
ENTP_AUTH_FAILED	

ntp-server-delete

[top]

Remove a configuration for an external time server used by NTP.

Input Name	Range	Type	Description
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
ENTP_USE_NODE_SCOPE	

ntp-server-get

[top]

Get the configuration of an external time server used by NTP.

Input Name	Range	Type	Description
desired-attributes		ntp-server-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be

		optional	returned.
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server

Output Name	Range	Type	Description
attributes		ntp-server-info	The attributes of the ntp server configuration.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
ENTP_USE_NODE_SCOPE	

ntp-server-get-iter

[top]

Get the configuration of all the external time servers used by NTP.

Input Name	Range	Type	Description
desired-attributes		ntp-server-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ntp-server-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp server configuration object. All ntp server configuration objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ntp-server-info[] optional	The list of attributes of ntp server configuration objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ntp server configuration objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	

Errno	Description
ENTP_USE_NODE_SCOPE	

ntp-server-key-create

[top]

Create an NTP symmetric authentication key.

Input Name	Range	Type	Description
id	**[1..65535]**	integer	NTP symmetric authentication key ID. The ID must be in the range 1-65535.
return-record		boolean optional	If set to true, returns the ntp authentication key on successful creation. Default: false
type		ntp-key-type	NTP symmetric authentication key type. Only SHA1 currently supported. Possible values: • "sha1"
value		string	NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys.

Output Name	Range	Type	Description
result		ntp-key-info optional	The ntp authentication key created (keys or the entire object if requested)

Errno	Description
ENTP_INVALID_SHA1_KEY	
ENTP_TOO_MANY_KEYS	

ntp-server-key-delete

[top]

Remove an NTP symmetric authentication key.

Input Name	Range	Type	Description
id	**[1..65535]**	integer	NTP symmetric authentication key ID. The ID must be in the range 1-65535.

Errno	Description
ENTP_KEY_IN_USE	

ntp-server-key-get-iter

[top]

Get the configuration of all NTP symmetric authentication keys.

Input Name	Range	Type	Description

desired-attributes		ntp-key-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ntp-key-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp authentication key object. All ntp authentication key objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ntp-key-info[] optional	The list of attributes of ntp authentication key objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ntp authentication key objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ntp-server-key-modify

[top]

Modify an NTP symmetric authentication key.

Input Name	Range	Type	Description
id	**[1..65535]**	integer	NTP symmetric authentication key ID. The ID must be in the range 1-65535.
type		ntp-key-type optional	NTP symmetric authentication key type. Only SHA1 currently supported. Possible values: • "sha1"
value		string optional	NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys.

Errno	Description
ENTP_INVALID_SHA1_KEY	

ntp-server-modify

[top]

Modify a configuration for an external time server used by NTP.

Input Name	Range	Type	Description
is-authentication-enabled		boolean optional	Specifies if symmetric key authentication is in use for this time server.
is-preferred		boolean optional	Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set.
key-id	**[1..65535]**	integer optional	Specifies the symmetric authentication key ID being used for this time server.
server-name		string	Host name, IPv4 address or IPv6 address for the external NTP time server
version		string optional	NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
ENTP_USE_NODE_SCOPE	
ENTP_NEEDS_9_5_0	
ENTP_INVALID_FIELD_AUTH_ENABLED	
ENTP_AUTH_NOT_IN_CLUSTER	
ENTP_AUTH_UNKNOWN_KEY	
ENTP_AUTH_FAILED	

ntp-server-reset

[top]

Reset the external NTP server list to the desired default values. The table is emptied and then populated to the desired default values.

Input Name	Range	Type	Description
use-public		boolean optional	Reset server list to public identified defaults

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
ENTP_USE_NODE_SCOPE	
ENTP_NO_RESET_SELECTED	

ntp-server-security-get

[top]

Get the NTP security settings.

Input Name	Range	Type	Description
desired-attributes		ntp-server-security-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		ntp-server-security-info	The attributes of the ntp-server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ntp-server-security-set

[top]

Set the NTP security settings.

Input Name	Range	Type	Description
is-query-enabled		boolean optional	Is Querying of NTP Server Enabled?

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ntp-server-status-get

[top]

Get the status of the selection of an external time server.

Input Name	Range	Type	Description
desired-attributes		ntp-server-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node
server		string	Host name, IPv4 address or IPv6 address for the external NTP time server

Output Name	Range	Type	Description
		ntp-server-	

attributes		status-info	The attributes of the ntp-server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ntp-server-status-get-iter

[top]

Get the status of the selection of all configured external time servers.

Input Name	Range	Type	Description
desired-attributes		ntp-server-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		ntp-server-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp-server object. All ntp-server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		ntp-server-status-info[] optional	The list of attributes of ntp-server objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ntp-server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ntp-server-validate

[top]

Validate an existing NTP external time server and report any validation problems

Input Name	Range	Type	Description

server-name		string	Host name, IPv4 address or IPv6 address for the NTP external time server

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EAPIPRIVILEGE	
EOBJECTNOTFOUND	
EDUPLICATEENTRY	
ENTP_USE_NODE_SCOPE	
ENTP_INVALID_SERVER_NAME	
ENTP_INVALID_IPV4_ADDR	
ENTP_INVALID_IPV6_ADDR	
ENTP_SERVER_NAME_NOTFOUND	
ENTP_SERVER_NAME_ADDRS	
ENTP_NO_CONNECT	
ENTP_NO_QUICKREPLY	
ENTP_REPLY_NO_SYNC	
ENTP_REPLY_NO_ACCES	
ENTP_REPLY_NO_CRYPTO	
ENTP_REPLY_PROTOCOL	
ENTP_REPLY_ROOT_DIST	
ENTP_REPLY_ROOT_DISP	
ENTP_REPLY_PEER_DIST	
ENTP_REPLY_PEER_DISP	
ENTP_REPLY_PEER_STRATUM	
ENTP_AUTH_FAILED	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **ntp-key-info**

[top]

Network Time Protocol (NTP) Key When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
id	**[1..65535]**	integer optional	NTP symmetric authentication key ID. The ID must be in the range 1-65535. Attributes: key, required-for-create, non-modifiable
type		ntp-key-type optional	NTP symmetric authentication key type. Only SHA1 currently supported. Attributes: required-for-create, modifiable Possible values: • "sha1"
value		string optional	NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. Attributes: required-for-create, modifiable

Element definition: **ntp-key-type**

[top]

sha1 Possible values:

- "sha1"

[none]

Element definition: **ntp-server-info**

[top]

Network Time Protocol (NTP) Server Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-authentication-enabled		boolean optional	Specifies if symmetric key authentication is in use for this time server. Attributes: non-creatable, modifiable
is-preferred		boolean optional	Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. Attributes: optional-for-create, modifiable
is-public-default		boolean optional	Specifies if the time server was provided as a default public NTP server by Data ONTAP. Attributes: non-creatable, non-modifiable
key-id	**[1..65535]**	integer optional	Specifies the symmetric authentication key ID being used for this time server. Attributes: optional-for-create, modifiable
server-name		string optional	Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, required-for-create, non-modifiable
version		string optional	NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. Attributes: optional-for-create, modifiable

Element definition: **ntp-server-security-info**

[top]

NTP Server Security Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-query-enabled		boolean optional	Is Querying of NTP Server Enabled? Attributes: non-creatable, modifiable

Element definition: **ntp-server-status-info**

[top]

NTP Server Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-peer-reachable		boolean optional	Is Peer Reachable and Responding to Polls? Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
offset		double-hundredths optional	Offset from Server Time (ms) Attributes: non-creatable, non-modifiable
selection-state		string optional	Description of Server Selection State Attributes: non-creatable, non-modifiable
server		string optional	Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, non-creatable, non-modifiable

Element definition: **double-hundredths**

[top]

Floating point number rounded to two decimals

[none]

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **nvme**

nvme-create
nvme-delete
nvme-feature-get
nvme-get-iter
nvme-interface-get-iter
nvme-modify
nvme-namespace-create
nvme-namespace-delete
nvme-namespace-get-iter
nvme-namespace-modify
nvme-namespace-os-type-list
nvme-subsystem-controller-get-iter
nvme-subsystem-create
nvme-subsystem-delete
nvme-subsystem-get-iter
nvme-subsystem-host-add
nvme-subsystem-host-get-iter
nvme-subsystem-host-remove
nvme-subsystem-map-add
nvme-subsystem-map-get-iter
nvme-subsystem-map-remove
nvme-subsystem-modify
nvme-subsystem-os-type-list

Provides mechanisms to manage access to NVMe targets within Data ONTAP.

nvme-create

[top]

Create a new NVMe target service.

Input Name	Range	Type	Description
is-available		boolean optional	Is Available
return-record		boolean optional	If set to true, returns the NVMe target service on successful creation. Default: false

Output Name	Range	Type	Description
result		nvme-target-service-info	The NVMe target service created (keys or the entire object if requested)

		optional	

Errno	Description
EAPIUNSUPPORTEDVERSION	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
EVSERVERNOTRUNNING	
E_NVMF_EXCLUSIVE_VSERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-delete

[top]

Delete an existing NVMe target service object.

Errno	Description
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
E_NVMF_EXCLUSIVE_VSERVER	
E_NVMF_SERVICE_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-feature-get

[top]

Get the enabled NVMe over Fabrics features

Output Name	Range	Type	Description
features		nvme-feature[] optional	Enabled NVMe over Fabrics features
max-anagrpid		integer optional	Maximum supported ANAGRPID
max-namespace-size		size optional	Maximum supported namespace size
max-nsid		integer optional	Maximum supported NSID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

nvme-get-iter

[top]

Iterate over a list of NVMe target service objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-service-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-service-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target service object. All NVMe target service objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-service-info[] optional	The list of attributes of NVMe target service objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe target service objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-interface-get-iter

[top]

Iterate over a list of NVMe Interface objects.

Input Name	Range	Type	Description
desired-attributes		nvme-interface-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-interface-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe Interface object. All NVMe Interface objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for the

tag		string optional	first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-interface-info[] optional	The list of attributes of NVMe Interface objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe Interface objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-modify

[top]

Modify the attributes of NVMe target service object.

Input Name	Range	Type	Description
is-available		boolean optional	Is Available

Errno	Description
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-namespace-create

[top]

Create a new NVMe target namespace.

Input Name	Range	Type	Description
application		string optional	Application
block-size		vdisk-block-size optional	Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096.
comment		string optional	Comment
		nvme-	OS Type Possible values: • "vmware" - The namespace contains VMware file system data, • "hyper_v" - The namespace contains Windows Hyper-V file

ostype		namespace-os	system data, • "windows" - The namespace contains Windows file system data, • "linux" - The namespace contains Linux file system data, • "xen" - The namespace contains Xen file system data, • "aix" - The namespace contains AIX file system data
path		lun-path	Namespace Path
return-record		boolean optional	If set to true, returns the NVMe target namespace on successful creation. Default: false
size		size	Size
uuid		uuid optional	Namespace UUID

Output Name	Range	Type	Description
result		nvme-namespace-info optional	The NVMe target namespace created (keys or the entire object if requested)

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EOP_DISALLOWED_VSERVER_ROOT	
EVDISK_ERROR_FLEXGROUP	
EVDISK_ERROR_LUN_TOO_LARGE	
EVDISK_ERROR_NO_SUCH_VOLUME	
EVDISK_ERROR_SIZE_TOO_SMALL	
EVDISK_ERROR_VDISK_EXISTS	
EVDISK_SNAPSHOT_PATH_DISALLOWED	
EVDISK_VOLUME_UNSUPPORTED	
EVOLUMEDOESNOTEXIST	
E_NVMF_NS_TOO_LARGE	
E_NVMF_NS_TOO_SMALL	

nvme-namespace-delete

[top]

Delete the namespace

Input Name	Range	Type	Description
destroy-application-namespace		boolean optional	Delete a Namespace Belonging to an Application
path		lun-path	Namespace Path
skip-mapped-check		boolean optional	Skip Mapped Check

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	

E_NVMF_NS_IN_USE	
EVDISK_SNAPSHOT_PATH_DISALLOWED	

nvme-namespace-get-iter

[top]

Iterate over a list of NVMe target namespace objects.

Input Name	Range	Type	Description
desired-attributes		nvme-namespace-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-namespace-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target namespace object. All NVMe target namespace objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-namespace-info[] optional	The list of attributes of NVMe target namespace objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe target namespace objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
volume-errors		volume-error[] optional	List of errors encountered while retrieving namespace inventory

Errno	Description
EINTERNALERROR	

nvme-namespace-modify

[top]

Modify the attributes of NVMe target namespace object.

Input Name	Range	Type	Description
comment		string	Comment
path		lun-path	Namespace Path

Errno	Description

EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EVDISK_SNAPSHOT_PATH_DISALLOWED	
E_NVMF_NS_TOO_LARGE	
E_NVMF_NS_TOO_SMALL	

nvme-namespace-os-type-list

[top]

Displays the supported values and descriptions for nvme-namespace-os.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[] optional	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

nvme-subsystem-controller-get-iter

[top]

Iterate over a list of NVMe subsystem controllers objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-subsystem-controller-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-subsystem-controller-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem controllers object. All NVMe subsystem controllers objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-subsystem-controller-info[] optional	The list of attributes of NVMe subsystem controllers objects.
next-tag		string	Tag for the next call. Not present when there are no more NVMe

		optional	subsystem controllers objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-create

[top]

Create a new NVMe target subsystem.

Input Name	Range	Type	Description
comment		string optional	Comment
delete-on-unmap		boolean optional	Delete on Unmap
ostype		nvme-subsystem-os	OS Type Possible values: • "windows" - The initiators belong to a Windows host, • "aix" - The initiators belong to an AIX host, • "linux" - The initiators belong to a Linux host, • "vmware" - The initiators belong to a VMware ESX host, • "xen" - The initiators belong to a Xen hypervisor host, • "hyper_v" - The initiators belong to a Hyper-V parent host
return-record		boolean optional	If set to true, returns the NVMe target subsystem on successful creation. Default: false
subsystem		string	Subsystem

Output Name	Range	Type	Description
result		nvme-subsystem-info optional	The NVMe target subsystem created (keys or the entire object if requested)

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
E_NVMF_EXCLUSIVE_VSERVER	
E_NVMF_SERVICE_REQUIRED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-delete

[top]

Delete the subsystem

Input Name	Range	Type	Description
skip-host-check		boolean optional	Skip Host Check
skip-mapped-check		boolean optional	Skip Mapped Namespace Check
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
E_NVMF_SUBSYSTEM_IN_USE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-get-iter

[top]

Iterate over a list of NVMe target subsystem objects.

Input Name	Range	Type	Description
desired-attributes		nvme-subsystem-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-subsystem-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target subsystem object. All NVMe target subsystem objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-subsystem-info[] optional	The list of attributes of NVMe target subsystem objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe target subsystem objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-host-add

[top]

Add a host to the subsystem

Input Name	Range	Type	Description
host-nqn		string	Host NQN
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-host-get-iter

[top]

Iterate over a list of NVMe subsystem hosts objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-subsystem-host-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-subsystem-host-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem hosts object. All NVMe subsystem hosts objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-subsystem-host-info[] optional	The list of attributes of NVMe subsystem hosts objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe subsystem hosts objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-host-remove

[top]

Remove a host from the subsystem

Input Name	Range	Type	Description
host-nqn		string	Host NQN
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVERNOTFOUND	

nvme-subsystem-map-add

[top]

Add a namespace map

Input Name	Range	Type	Description
path		lun-path	Namespace Path
subsystem		string	Subsystem

Output Name	Range	Type	Description
namespace-uuid		uuid	Namespace UUID
nsid	**[0..2^32-1]**	integer	NSID

Errno	Description
EVDISK_SNAPSHOT_PATH_DISALLOWED	
E_NVMF_NS_IN_USE	
E_NVMF_LIF_REQUIRED	
E_NVMF_SUBSYSTEM_MAP_LIMIT	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-map-get-iter

[top]

Iterate over a list of NVMe attached namespace objects.

Input Name	Range	Type	Description
desired-attributes		nvme-target-subsystem-map-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		nvme-target-subsystem-map-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe attached namespace object. All NVMe attached namespace objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		nvme-target-subsystem-map-info[] optional	The list of attributes of NVMe attached namespace objects.
next-tag		string optional	Tag for the next call. Not present when there are no more NVMe attached namespace objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

nvme-subsystem-map-remove

[top]

Remove a namespace map

Input Name	Range	Type	Description
path		lun-path	Namespace Path
subsystem		string	Subsystem

Errno	Description
EVDISK_SNAPSHOT_PATH_DISALLOWED	
E_NVMF_NS_NOT_MAPPED	

nvme-subsystem-modify

[top]

Modify the attributes of NVMe target subsystem object.

Input Name	Range	Type	Description

comment		string optional	Comment
delete-on-unmap		boolean optional	Delete on Unmap
subsystem		string	Subsystem

Errno	Description
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

nvme-subsystem-os-type-list

[top]

Displays the supported values and descriptions for nvme-subsystem-os.

Output Name	Range	Type	Description
ostypes		system-api-enum-value-info[] optional	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

Element definition: **lun-path**

[top]

LUN Path

[none]

Element definition: **nvme-feature**

[top]

nvmf|fc-nvme|multi-path|multi-node|multi-protocol|volume-move|block-size-512|nvme-roce|nvme-tcp|subsystem-vendor-uuids|namespace-resize|namespace-transition|mcc-fc-nvme|inband-authentication|nodes-per-vserver-12|tp-8009 Possible values:

- "nvmf" - NVMe over Fabrics Base Feature,
- "fc_nvme" - NVMe/FC Transport,
- "multi_path" - Multi-Path,
- "multi_node" - Multi-Node,
- "multi_protocol" - Multi-Protocol Vserver,
- "no_node_lif_limit" - Allow More Than 2 LIFs per Node,
- "volume_move" - Volume Move of Mapped Namespaces,
- "block_size_512" - 512-byte Block Size Namespaces,

"large_namespace" - Large Namespaces,
- "nvme_roce" - NVMe/RoCE Transport,
- "nvme_tcp" - NVMe/TCP Transport,
- "subsystem_vendor_uuids" - Vendor-Specific UUIDs in Subsystems,
- "aix" - AIX host support,
- "namespace_resize" - Namespace resize support,
- "lun_to_namespace_transition" - Transition from LUN to Namespace support,
- "nsid_1024" - Support 1024 Namespaces per Subsystem,
- "unique_discovery_nqn" - Unique Discovery Subsystem NQN,
- "mcc_fc_nvme" - FC NVMe on MCC,
- "inband_authentication" - In-band Authentication,
- "nodes_per_vserver_12" - Allow 12 Nodes with LIFs in a Vserver,
- "tp_8009" - TP-8009 Support

[none]

Element definition: **nvme-interface-info**

[top]

NVMe target interface configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	Comment Attributes: non-creatable, non-modifiable
fc-wwnn		string optional	FC WWNN Attributes: non-creatable, non-modifiable
fc-wwpn		string optional	FC WWPN Attributes: non-creatable, non-modifiable
home-node		filer-id optional	Home Node Attributes: non-creatable, non-modifiable
home-port		lif-bindable optional	Home Port Attributes: non-creatable, non-modifiable
lif		lif-name optional	Logical Interface Attributes: key, non-creatable, non-modifiable
lif-uuid		uuid optional	LIF UUID Attributes: non-creatable, non-modifiable
physical-protocol		nvme-physical-protocol optional	Physical Protocol Attributes: non-creatable, non-modifiable Possible values: • "fibre_channel" , • "ethernet"
status-admin		vif-status optional	Status Admin Attributes: non-creatable, non-modifiable Possible values: • "up" ,

			• "down"
transport-address		string optional	Transport Address Attributes: non-creatable, non-modifiable
transport-protocols		nvme-transport[] optional	Transport Protocol Attributes: non-creatable, non-modifiable Possible values: • "fc_nvme" - NVMe/FC, • "nvme_roce" - NVMe/RoCE, • "nvme_tcp" - NVMe/TCP
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-namespace-info**

[top]

NVMe target namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
anagrpid	**[0..2^32-1]**	integer optional	ANA Group ID Attributes: non-creatable, non-modifiable
application		string optional	Application Attributes: optional-for-create, non-modifiable
application-uuid		uuid optional	Application UUID Attributes: non-creatable, non-modifiable
block-size		vdisk-block-size optional	Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096. Attributes: optional-for-create, non-modifiable
comment		string optional	Comment Attributes: optional-for-create, modifiable
creation-timestamp		datetime optional	Creation Time Attributes: non-creatable, non-modifiable
is-read-only		boolean optional	Is Read Only Attributes: non-creatable, non-modifiable
node		filer-id optional	Node Hosting the Namespace Attributes: non-creatable, non-modifiable
nsid	**[0..2^32-1]**	integer optional	Namespace ID Attributes: non-creatable, non-modifiable
			OS Type Attributes: required-for-create, non-modifiable Possible values: • "vmware" - The namespace contains VMware file system data,

ostype		nvme-namespace-os optional	• "hyper_v" - The namespace contains Windows Hyper-V file system data, • "windows" - The namespace contains Windows file system data, • "linux" - The namespace contains Linux file system data, • "xen" - The namespace contains Xen file system data, • "aix" - The namespace contains AIX file system data
path		lun-path optional	Namespace Path Attributes: key, required-for-create, non-modifiable
qtree		qtree-name optional	Qtree Name Attributes: non-creatable, non-modifiable
restore-inaccessible		boolean optional	Restore Inaccessible Attributes: non-creatable, non-modifiable
size		size optional	Size Attributes: required-for-create, modifiable
size-used		size optional	Size Used Attributes: non-creatable, non-modifiable
state		nvme-namespace-state optional	State Attributes: non-creatable, modifiable Possible values: • "online" - Namespace is administratively online, • "offline" - Namespace is adminitratively offline or the reason is unknown, • "nvfail" - Namespace was automatically taken offline due to NVRAM failure, • "space_error" - Namespace was automatically taken offline due to insufficient space
subsystem		string optional	Mapped Subsystem Attributes: non-creatable, non-modifiable
uuid		uuid optional	Namespace UUID Attributes: optional-for-create, non-modifiable
volume		volume-name optional	Volume Name Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-namespace-os**

[top]

aix|linux|vmware|windows Possible values:

- "vmware" - The namespace contains VMware file system data,
- "hyper_v" - The namespace contains Windows Hyper-V file system data,
- "windows" - The namespace contains Windows file system data,
- "linux" - The namespace contains Linux file system data,
- "xen" - The namespace contains Xen file system data,
- "aix" - The namespace contains AIX file system data

[none]

Element definition: **nvme-subsystem-info**

[top]

NVMe target subsystem configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	Comment Attributes: optional-for-create, modifiable
default-io-queue-count	**[1..15]**	integer optional	Default Number of Host I/O Queue Pairs Attributes: optional-for-create, modifiable
default-io-queue-depth	**[16..128]**	integer optional	Default Host I/O Queue Depth Attributes: optional-for-create, modifiable
delete-on-unmap		boolean optional	Delete on Unmap Attributes: optional-for-create, modifiable
ostype		nvme-subsystem-os optional	OS Type Attributes: required-for-create, non-modifiable Possible values: • "windows" - The initiators belong to a Windows host, • "aix" - The initiators belong to an AIX host, • "linux" - The initiators belong to a Linux host, • "vmware" - The initiators belong to a VMware ESX host, • "xen" - The initiators belong to a Xen hypervisor host, • "hyper_v" - The initiators belong to a Hyper-V parent host
serial-number		string optional	Serial Number Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, required-for-create, non-modifiable
target-nqn		string optional	Target NQN Attributes: non-creatable, non-modifiable
uuid		uuid optional	UUID Attributes: optional-for-create, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-subsystem-os**

[top]

aix|linux|vmware|windows Possible values:

- "windows" - The initiators belong to a Windows host,
- "aix" - The initiators belong to an AIX host,
- "linux" - The initiators belong to a Linux host,
- "vmware" - The initiators belong to a VMware ESX host,
- "xen" - The initiators belong to a Xen hypervisor host,
- "hyper_v" - The initiators belong to a Hyper-V parent host

[none]

Element definition: **nvme-target-service-info**

[top]

NVMe target service configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-available		boolean optional	Is Available Attributes: optional-for-create, modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-target-subsystem-controller-info**

[top]

NVMe subsystem controller When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-queue-depth	**[0..2^32-1]**	integer optional	Admin Queue Depth Attributes: non-creatable, non-modifiable
controller-id	**[0..2^16-1]**	integer optional	Controller ID Attributes: key, non-creatable, non-modifiable

data-digest-enabled		boolean optional	Data Digest Enabled Attributes: non-creatable, non-modifiable
header-digest-enabled		boolean optional	Header Digest Enabled Attributes: non-creatable, non-modifiable
host-nqn		string optional	Host NQN Attributes: non-creatable, non-modifiable
initiator-transport-address		string optional	Initiator Transport Address Attributes: non-creatable, non-modifiable
io-queue-count	**[0..65535]**	integer optional	Number of I/O Queues Attributes: non-creatable, non-modifiable
io-queue-depth	**[0..65535]**	integer[] optional	I/O Queue Depths Attributes: non-creatable, non-modifiable
kato	**[0..2^32-1]**	integer optional	Keep Alive Time Out(msec) Attributes: non-creatable, non-modifiable
lif		string optional	Logical Interface Attributes: non-creatable, non-modifiable
lif-uuid		uuid optional	Logical Interface UUID Attributes: non-creatable, non-modifiable
max-io-size	**[0..2^32-1]**	integer optional	Max IO Size in Bytes Attributes: non-creatable, non-modifiable
node		filer-id optional	Node Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, non-creatable, non-modifiable
subsystem-uuid		uuid optional	Subsystem UUID Attributes: non-creatable, non-modifiable
transport-protocol		nvme-transport optional	Transport Protocol Attributes: non-creatable, non-modifiable Possible values: • "fc_nvme" - NVMe/FC, • "nvme_roce" - NVMe/RoCE, • "nvme_tcp" - NVMe/TCP
trsvcid		string optional	Transport Service Identifier Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-target-subsystem-host-info**

[top]

NVMe subsystem host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
host-nqn		string optional	Host NQN Attributes: key, non-creatable, non-modifiable
io-queue-count	**[1..15]**	integer optional	Number of I/O Queue Pairs Attributes: non-creatable, non-modifiable
io-queue-depth	**[16..128]**	integer optional	I/O Queue Depth Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, non-creatable, non-modifiable
subsystem-uuid		uuid optional	Subsystem UUID Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **nvme-target-subsystem-map-info**

[top]

NVMe attached namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
anagrpid	**[0..2^32-1]**	integer optional	ANA Group ID Attributes: non-creatable, non-modifiable
namespace-uuid		uuid optional	Namespace UUID Attributes: non-creatable, non-modifiable
nsid	**[0..2^32-1]**	integer optional	NSID Attributes: key, non-creatable, non-modifiable
path		lun-path optional	Namespace Path Attributes: non-creatable, non-modifiable
subsystem		string optional	Subsystem Attributes: key, non-creatable, non-modifiable
subsystem-uuid		uuid optional	Subsystem UUID Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Vserver UUID Attributes: non-creatable, non-modifiable

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vdisk-block-size**

[top]

The size in bytes of a logical block. Possible values: 512, 4096.

[none]

Element definition: **volume-error**

[top]

The error code of a given volume.

Name	Range	Type	Description
errno		integer optional	The error code of the snapshot operation for a given volume. It is returned only when an error is found.
name		volume-name	Name of a volume.
reason		string optional	Description of the error. It is returned only when an error is found.
vserver		string optional	Virtual server containing the volume.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **lif-bindable**

[top]

|

[none]

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **lun-path**

[top]

LUN Path

[none]

Element definition: **nvme-namespace-state** [top]

online|offline|nvfail|space-error Possible values:

- "online" - Namespace is administratively online,
- "offline" - Namespace is adminitratively offline or the reason is unknown,
- "nvfail" - Namespace was automatically taken offline due to NVRAM failure,
- "space_error" - Namespace was automatically taken offline due to insufficient space

[none]

Element definition: **nvme-physical-protocol** [top]

fibre-channel|ethernet Possible values:

- "fibre_channel" ,
- "ethernet"

[none]

Element definition: **nvme-transport** [top]

fc-nvme|nvme-tcp Possible values:

- "fc_nvme" - NVMe/FC,
- "nvme_roce" - NVMe/RoCE,
- "nvme_tcp" - NVMe/TCP

[none]

Element definition: **qtree-name** [top]

Qtree Name

[none]

Element definition: **vif-status** [top]

up|down Possible values:

- "up" ,
- "down"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **options**

options-get
options-get-iter
options-list-info
options-modify-iter
options-set

options-get

[top]

Get the value of a single option.

Input Name	Range	Type	Description
name		string	Name of the option.

Output Name	Range	Type	Description
cluster-constraint		string	Indicates the cluster-specific constraints of option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none".
value		string	Value of the option.

Errno	Description
EONTAPI_ENOENT	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

options-get-iter

[top]

Iterate over a list of options objects.

Input Name	Range	Type	Description
desired-attributes		option-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

		optional	will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		option-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the options object. All options objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		option-info[] optional	The list of attributes of options objects.
next-tag		string optional	Tag for the next call. Not present when there are no more options objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

options-list-info

[top]

Get a list of all options

Output Name	Range	Type	Description
options		option-info[] optional	

Errno	Description
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

options-modify-iter

[top]

Modify the attributes of options or a group of options objects.

Input Name	Range	Type	Description
attributes		option-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-		boolean	This input element is useful when multiple options objects match a given query. If set to true, the API will continue modifying the next

failure		optional	matching options even when modification of a previous options fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching options even when the modification of a previous matching options fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		option-info	If modifying a specific options, this input element must specify all keys. If modifying options objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of options objects (just keys) that were not modified due to some error. If set to false, the list of options objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of options objects (just keys) that were successfully updated. If set to false, the list of options objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		options-modify-iter-info[] optional	Information about options objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching options objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of options objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of options objects that matched the query and were successfully updated.
success-list		options-modify-iter-info[] optional	The options objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

options-set

[top]

Set the value of a single option. For complete list of names and values of options, please refer to

options man pages.

Input Name	Range	Type	Description
name		string	Name of the option.
value		string	Value of the option.

Output Name	Range	Type	Description
cluster-constraint		string	Cluster-specific constraint of the option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none".
message		string optional	Informative message that was issued as a result of setting (or trying to set) the option.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVERNOTFOUND	

Vfiler-enabled
Yes

Element definition: **option-info**

[top]

Name	Range	Type	Description
cluster-constraint		string optional	Indicates the cluster-specific constraints of option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
data-type		string optional	Data type of the option 'name'. Possible values are: • "bool" - A boolean true / false value, • "integer" - A decimal integer value, • "unsigned" - A non-negative decimal integer value, • "string" - A UTF-8 character string.

default-value		string optional	Default initial value of this option. The field 'value' contains the current set value and could be different from this.
description		string optional	Brief description of this option.
name		string optional	Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
priv-level		string optional	The privilege level of this option. Possible values are: • admin • advanced • diagnostic • test
value		string optional	Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
vserver		string optional	The name of the vserver to which this option belongs to.

Element definition: **options-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against options object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
options-key		option-info	The keys for the options object to which the modify operation applies.

Element definition: **option-info**

[top]

Name	Range	Type	Description
cluster-constraint		string optional	Indicates the cluster-specific constraints of option. • "none" - no constraint. • "same_preferred" - same value should be used on both nodes of a HA pair. • "same_required" - same value must be used on both nodes of a HA pair. • "only_one" - value is used for both nodes of a HA pair, when in takeover mode. • "unknown" - value is not valid. In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
			Data type of the option 'name'. Possible values are: • "bool" - A boolean true / false value,

data-type		string optional	• "integer" - A decimal integer value, • "unsigned" - A non-negative decimal integer value, • "string" - A UTF-8 character string.
default-value		string optional	Default initial value of this option. The field 'value' contains the current set value and could be different from this.
description		string optional	Brief description of this option.
name		string optional	Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
priv-level		string optional	The privilege level of this option. Possible values are: • admin • advanced • diagnostic • test
value		string optional	Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode.
vserver		string optional	The name of the vserver to which this option belongs to.

APIs in Category: **perf**

perf-archive-config-get
perf-archive-config-modify
perf-archive-datastore-get-iter
perf-awa-start
perf-awa-stop
perf-object-counter-list-info
perf-object-get-instances
perf-object-instance-list-info-iter
perf-object-list-info
perf-object-start
perf-object-stop
perf-preset-create
perf-preset-delete
perf-preset-detail-get
perf-preset-get-iter
perf-preset-modify
perf-samples-delete
perf-samples-get-iter

The perf APIs enable monitoring of system performance. They provide a single interface to performance data across various subsystems in the appliance. Data are organized hierarchically, with objects, instances, and counters. An object generally represents a subsystem, an instance represents a single physical or logical entity within the subsystem, and a counter is a datum specific to the instance.

An example of the object-instance-counter hierarchy is processor:processor0:processor_busy. Each CPU in the system is an instance of the 'processor' object. The processor_busy counter of the processor0 instance reports the time during which this processor has been active since an arbitrary point in the past. A second counter, processor_elapsed_time, reports the total time, so the change in processor_busy divided by the change in processor_elapsed_time over an interval can be used to compute the average utilization of the processor. Processor_elapsed_time is referred to as the 'base counter' of processor_busy since it is needed to compute a useful value from processor_busy.

A typical user of these APIs will initially request a list of objects using the perf-object-list-info call. The user may then request a list of counters available for instances of an object by calling perf-object-counter-list-info for each interesting object. The sets of objects and counters are static, so these calls will not need to be made again.

The core perf API call is perf-object-get-instances. This API returns the names and raw counter values of instances of an object at the time of the call. Unlike objects and counters, the set of instances is not always fixed, and the values of counters will vary across calls. Typically this API must be called at least twice over some interval in order to evaluate subsystem performance during that interval. Depending on counter properties, the user may need to perform additional computation on the raw value in order to correctly interpret it.

Each counter has a property which indicates how it's raw value should be interpreted. This property is available as part of the static counter metadata returned by a call to perf-object-counter-list-info. Possible properties are 'raw', 'rate', 'delta', 'average', 'percent', 'string', and 'no-display'. String counters report textual information, such as volume or disk identifiers. No-display counters are not intended for direct use, and this property is typically assigned to base counters. The other properties are interpreted as follows:

- raw: single counter value is used
- delta: change in counter value between two samples is used
- rate: delta divided by the time in seconds between samples is used
- average: delta divided by the delta of a base counter is used
- percent: 100*average is used

For 'average' and 'percent' counters, the 'base-counter' element will be set to the name of the base counter. Some counters are multidimensional, and for these the counter description includes a list of labels of the counter subelements, and a 'type' element indicating the counter is an array.

For example, again consider the processor::processor_busy counter. The description and properties of this counter state that it is a percentage, but a call to perf-object-get-instances will return a raw number which must be further processed by the user. Because the counter is a percentage, the user must note the value of its base counter, (processor::processor_elapsed_time) and then make a second call to perf-object-get-instances and again note the raw value of the counter and base counter. Suppose the user made the calls at time T1 and later at time T2, and these raw values were returned (the object and instance name are not shown):

- (T1) processor_busy=2000000, processor_elapsed_time=3000000
- (T2) processor_busy=2400000 ,processor_elapsed_time=4000000

The user must then perform the following computation to determine processor utilization: 100*(2400000-2000000)/(4000000-3000000) = 40%

The perf-object-instance-list-info-iter API may be used to list the names of current instances of an object. It does not return any counter values.

perf-archive-config-get

[top]

Display Cluster-Wide Performance Archive Configuration

Input Name	Range	Type	Description
desired-attributes		archive-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		archive-config-info	The attributes of the perf-archive-config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-archive-config-modify

[top]

Modify Cluster-Wide Performance Archive Configuration

Input Name	Range	Type	Description
asup-file-rotation	**[1..1440]**	integer optional	Minutes Between ASUP Data File Rotations
asup-max-retention	**[1..365]**	integer optional	Days to Retain ASUP Archive Data
datastore-file-rotation	**[1..120]**	integer optional	Minutes Between Performance Archive Data File Rotations
datastore-max-percent	**[0..100]**	integer optional	Maximum Percentage of Root Volume Used for Performance Archive Data
datastore-max-retention	**[1..365]**	integer optional	Days to Retain Performance Archive Data
is-enabled		boolean optional	Is the Performance Archive Enabled?
opm-file-rotation	**[1..120]**	integer optional	Minutes Between OPM Data File Rotations
perfstat-duration	**[0..168]**	integer optional	Minutes after Which Perfstat Collection Is Stopped
perfstat-sampling-period	**[0..60]**	integer optional	Minutes Between Perfstat Collections

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-archive-datastore-get-iter

[top]

API retrieves information about all the performance archive datastores in the cluster and their datafiles.

Each performance archive-enabled process in the Data ONTAP cluster will have one or more datastores in which the archive datafiles are stored. These datastores encapsulate the archived performance data in groupings specified by the Data ONTAP cluster's performance preset configurations.

Input Name	Range	Type	Description
age-filter		perf-archive-datafile-age-filter optional	Filters the retrieved information to only include specific datafiles. By default, all datafiles within each datastore are retrieved.
desired-attributes		perf-archive-datastore-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
is-partial-shown		boolean optional	Specifies whether or not to include partial datafiles. By default, all datafiles within each datastore are retrieved.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		perf-	A query that specifies which objects to return. A query could be

query		archive-datastore-info optional	specified on any number of attributes in the perf-archive-datastore object. All perf-archive-datastore objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		perf-archive-datastore-info[] optional	The list of attributes of perf-archive-datastore objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf-archive-datastore objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

perf-awa-start

[top]

Starting AWA

Input Name	Range	Type	Description
aggregate		aggr-name optional	Aggregate
debug-level		integer optional	Debug Level
flash-cache		boolean optional	Flash Cache Node-wide Modeling
interval-length		integer optional	Interval Length (secs)
node		string	Node Name
num-intervals		integer optional	Number of Intervals
pcache-size		integer optional	Pseudo Cache Size (MB)
sampling-factor		integer optional	Sampling Factor
size-limit		integer optional	Size-limit (Mega-Blocks)
sync		boolean optional	Perf Run Sync
working-set-size		boolean optional	Working Set Size

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	

perf-awa-stop

[top]

Stoping AWA

Input Name	Range	Type	Description
aggregate		aggr-name optional	Aggregate
flash-cache		boolean optional	Flash cache node-wide modeling
node		string	Node Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-object-counter-list-info

[top]

Get information about the counters of an object. This information is static and independent of any particular instance of the object. It includes counter names and descriptions, as well as properties which are necessary to to interpret counter values.

Input Name	Range	Type	Description
filter-data		filter-data optional	Allows selecting counters from a particular node. An example filter is "node_name=hostname". This element is **deprecated** in Data ONTAP 8.2 and later, as filtering by node is no longer necessary. Each node contains the same set of counter definitions, so filtering by node yields the same results as not filtering at all.
objectname		string	Name of the object to get information for.

Output Name	Range	Type	Description
counters		counter-info[]	List of counters available for instances of this object.

perf-object-get-instances

[top]

Get a list of current counter values of instances of an object. This will return the values of all specified counters and instances of the specified object with one call.

Input Name	Range	Type	Description

counters		counter[] optional	List of counters whose values will be retrieved. This element can be used to limit data collection to a specified subset of the counters of instances of the object. If this element is absent, values of all counters will be retrieved.
filter-data		filter-data optional	Filter to apply to the performance data.
instance-uuids		instance-uuid[] optional	List of instance UUIDs for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object. Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested.
instances		instance[] optional	List of instance names for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object. Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested.
max	**[0..499]**	integer optional	Maximum number of instances.
objectname		string	Name of the object to get counter values for.
privilege-level		string optional	Name of the privilege level. Possible values: "basic", "admin", "advanced", "diag" If the element is absent, the default privilege of the object will be used.
sample-id		string optional	Name of the sample.
sort-key		string optional	Counter used for sorting instances.
sort-order		string optional	Sort order. Possible values are 'ascending' and 'descending'.

Output Name	Range	Type	Description
instances		instance-data[]	List of instances of the object. Each element of this list
timestamp		string	Timestamp in seconds since January 1, 1970.

perf-object-instance-list-info-iter

[top]

Gets the list of names and UUIDs of current instances of an object. This iterative API will return names and UUIDs of the current instances of the specified object; the number of records returned is specified by the max-records input element.

To retrieve all the instances of the specified object, the value of the next-tag output element should be passed in as the value of the tag input element on the subsequent API call.

Input Name	Range	Type	Description
desired-attributes		instance-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

filter-data		string optional	Filter to apply to instance list; see filter-data type for details.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 1000
objectname		string	Name of the object for which to get instance information.
query		instance-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		instance-info[] optional	The list of attributes of perf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

perf-object-list-info

[top]

Get list of performance objects in the system.

Input Name	Range	Type	Description
filter-data		filter-data optional	Allows selecting objects from a particular node. An example filter is "node_name=hostname". This element is **deprecated** in Data ONTAP 8.2 and later as filtering by node is no longer necessary. Each node contains the same set of object definitions, so filtering by node yields the same results as not filtering at all.

Output Name	Range	Type	Description
objects		object-info[]	List of performance objects.

perf-object-start

[top]

Input Name	Range	Type	Description
counter		string optional	Counter

duration		integer optional	Sample Duration in Minutes
filter		string optional	Filter
instance		string optional	Instance
max		integer optional	Tracker Size
object		string optional	Object
preset		string optional	Preset
sample-id		string	Sample Identifier
sample-type		sample-type optional	Sample Type
sort-key		string optional	Counter Used For Sorting
sort-order		sort-order optional	Sort Order

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-object-stop

[top]

Input Name	Range	Type	Description
sample-id		string	Sample Identifier

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-preset-create

[top]

Create a single Performance Preset configuration and all of its details

Input Name	Range	Type	Description
comment		string optional	Preset Description
expiration-length	**[5..1440]**	integer optional validate	Default expiration length (in minutes) until the Performance Preset will be automatically disabled.
is-archive-enabled		boolean optional	Is Preset Enabled?
preset		string	Preset Name

preset-detail-infos		preset-detail-info[] optional	Details of the Performance Preset
privilege		string optional	Privilege level Possible Values: admin, advanced, diagnostic

perf-preset-delete

[top]

Delete a Performance Preset and all of its Preset Details

Input Name	Range	Type	Description
preset		string	Preset Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-preset-detail-get

[top]

Get detailed information about a single Performance Preset configuration

Input Name	Range	Type	Description
preset		string	Preset Name

Output Name	Range	Type	Description
comment		string optional	Preset Description
expiration-end-date	**[0..2^32-1]**	integer optional	Date when the Preset will be automatically disabled, represented as the number of seconds since January 1, 1970.
expiration-length	**[5..1440]**	integer optional	Default expiration length (in minutes) until the Performance Preset will be automatically disabled.
generation-id	**[0..2^32-1]**	integer	Preset Generation ID
is-archive-enabled		boolean	Is Preset Archive-Enabled?
is-read-only		boolean	Is Preset Read-Only?
preset		string	Preset Name
preset-detail-infos		preset-detail-info[]	The details of the Performance Preset configuration
privilege		string optional	Preset Privilege Level Possible Values: admin, advanced, diagnostic
uuid		uuid	Preset UUID

perf-preset-get-iter

[top]

Iteratively get information about Performance Presets

Input Name	Range	Type	Description
desired-attributes		preset-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		preset-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the perf-preset object. All perf-preset objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		preset-info[] optional	The list of attributes of perf-preset objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf-preset objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

perf-preset-modify

[top]

Modify a Performance Preset

Input Name	Range	Type	Description
comment		string optional	Preset Description
expiration-length	**[0..1440]**	integer optional	Default Expiration Length (Minutes)
is-archive-enabled		boolean optional	Is Preset Archive-Enabled?
new-name		string optional	New Preset Name
preset		string	Preset Name
privilege		privilege-level optional	Preset Privilege Level

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-samples-delete

[top]

Input Name	Range	Type	Description
force		boolean optional	Force Delete
sample-id		string	Sample Identifier
vserver		vserver-name	Vserver

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

perf-samples-get-iter

[top]

Returns list of samples

Input Name	Range	Type	Description
desired-attributes		sample-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		sample-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sample-info[] optional	The list of attributes of perf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more perf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **archive-config-info**

[top]

Performance Archive Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
asup-file-rotation	**[1..1440]**	integer optional	Minutes Between ASUP Data File Rotations Attributes: non-creatable, modifiable
asup-max-retention	**[1..365]**	integer optional	Days to Retain ASUP Archive Data Attributes: non-creatable, modifiable
datastore-file-rotation	**[1..120]**	integer optional	Minutes Between Performance Archive Data File Rotations Attributes: non-creatable, modifiable
datastore-max-percent	**[0..100]**	integer optional	Maximum Percentage of Root Volume Used for Performance Archive Data Attributes: non-creatable, modifiable
datastore-max-retention	**[1..365]**	integer optional	Days to Retain Performance Archive Data Attributes: non-creatable, modifiable
datastore-path		string optional	Base Path of Performance Archive Datastore Attributes: non-creatable, non-modifiable
enabled-presets		enabled-preset[] optional	Archive-Enabled Performance Preset Info
is-enabled		boolean optional	Is the Performance Archive Enabled? Attributes: non-creatable, modifiable
opm-file-rotation	**[1..120]**	integer optional	Minutes Between OPM Data File Rotations Attributes: non-creatable, modifiable
perfstat-duration	**[0..168]**	integer optional	Minutes after Which Perfstat Collection Is Stopped Attributes: non-creatable, modifiable
perfstat-end-date		datetime optional	Date Perfstat Collection Will Be Turned off Attributes: non-creatable, non-modifiable
perfstat-sampling-period	**[0..60]**	integer optional	Minutes Between Perfstat Collections Attributes: non-creatable, modifiable
sw-image-client		string optional	Software Client of Installed Image Attributes: non-creatable, non-modifiable
version		string	This field is deprecated in ONTAP 9.8.0 and later. Please use sw-

		optional	image-client instead. Attributes: non-creatable, non-modifiable

Element definition: **counter**

[top]

Counter Name

[none]

Element definition: **counter-info**

[top]

Information about a single counter.

Name	Range	Type	Description
aggregation-style		string optional	For counters that can be aggregated, this element decribes the style. If the element is absent, no aggregation is available for this counter. Valid values include: [strict, permissive]. "strict" aggregation requires all items of a set to perform aggregation. If any item is missing, the aggregation will be rejected. "permissive" aggregation is a best effort aggregation. All available items of a set will be aggregated. Aggregation-style is **deprecated** in Data ONTAP 8.2 and later. This field has never been used.
base-counter		string optional	Name of the counter used as the denominator to calculate values of counters involving averages and percentages.
desc		string	Description of the counter
is-deprecated		boolean optional	True if the counter is deprecated.
is-key		boolean optional	True if the counter is a key counter. A set of key counters for an object can be used to uniquely identify instances of an object.
labels		label-info[] optional	List of labels of an array type counter.
name		string	Name of the counter.
privilege-level		string	Privilege level of the counter. Any counter with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged. Possible values: basic, admin, advanced or diag.
properties		string optional	Comma separated list of properties of the counter. The counter properties determine how raw counter values should be interpreted. Possible values: raw, rate, delta, percent, string, no-display and no-zero-values.
replaced-by		string optional	Replacement counter if this counter is deprecated.
translation-input-counter		string optional	Name of counter that is used as input for translation. Translation is needed for some counters because the precise value is unknown at the moment of sampling, and must be determined from another counter at a later time. Note that the time frame is still within a single request and response from the ZAPI client's point of view. Translation-input-counter is **deprecated** in Data ONTAP 8.2 and later.

			This field does not convey necessary information for about counters. It was previously used for diagnostic purposes, but it is no longer needed.
type		string optional	Indicator for whether counter is a scalar or array. If this element is absent,the counter is a scalar. Possible values: array
unit		string optional	Unit of the counter Possible values: per_sec, b_per_sec (bytes/s), kb_per_sec (Kbytes/s), mb_per_sec (Mbytes/s), percent, millisec, microsec, nanosec, sec, or none

Element definition: **filter-data**

[top]

A string, representing filter data, in the format of key=value pairs. Multiple pairs can be specified via comma (",") or pipe ("|") separation. The applied filter is a combination of ANDing and ORing the key-value pairs.

A comma indicates ANDing, a pipe indicates ORing, and the order of precedence is AND and then OR. For example, "`instance_name=volA,vserver_name=vs1|vserver_name=vs2`" equates to "`(instance_name=volA && vserver_name=vs1) | (vserver_name=vs2)`". This would return instances on Vserver `vs1` with name `volA` and all instances on Vserver `vs2`.

[none]

Element definition: **instance**

[top]

Instance name.

[none]

Element definition: **instance-data**

[top]

Instance name and counter values.

Name	Range	Type	Description
aggregation		aggregation-data optional	Information related to aggregation that was done. If element is absent, no aggregation was performed on this instance.
counters		counter-data[]	List of counter values of this instance. Each element of this list contains the value of a single counter.
name		string	Name of the instance
sort-id		integer	Sort ID of the instance
uuid		string	UUID of the instance

[top]

Element definition: **instance-info**

Information about an object's instance When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
name		string optional	Name of the instance Attributes: key, non-creatable, non-modifiable
uuid		string optional	UUID of the instance Attributes: key, non-creatable, non-modifiable

Element definition: **instance-uuid**

[top]

Instance UUID.

[none]

Element definition: **object-info**

[top]

Description of a performance object.

Name	Range	Type	Description
description		string optional	Description of the object
get-instances-preferred-counter		string optional	Name of the counter, either instance_name or instance_uuid, which should be used for perf-object-get-instances ZAPI for optimal performance. If this element is absent for an object, the value of this element defaults to instance_name counter. This element is a performance hint for getting optimal performance for the perf-object-get-instances ZAPI. If the value of this element is set to instance UUID counter of an object, using the instance UUID counter in the perf-object-get-instances query will return the counter information faster than using instance name counter. Otherwise, instance_name will yield faster results.
is-deprecated		boolean optional	True if the object is deprecated.
name		string	Name of the object
privilege-level		string	The object privilege level. Any object with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged. Possible values: basic, admin, advanced or diag.
replaced-by		string optional	Replacement object if this object is deprecated.

Element definition: **perf-archive-datafile-age-filter**

[top]

The filter limits output such that all datafiles, only the newest datafile, or only the oldest datafile is returned. Possible values:

- "all" - no filter--return all datafiles,
- "newest" - only return newest datafile,
- "oldest" - only return oldest datafile

[none]

Element definition: **perf-archive-datastore-info**

[top]

Information about a single performance archive datastore in the Data ONTAP cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
datastore		string optional	Name of the datastore. Attributes: key, non-creatable, non-modifiable
is-enabled		boolean optional	Is the datastore currently collecting data? Attributes: non-creatable, non-modifiable
node		node-name optional	Name of Data ONTAP node owning the datastore. Attributes: key, non-creatable, non-modifiable
oldest-timestamp		datetime optional	Timestamp of the oldest datafile in the datastore (UTC). Attributes: non-creatable, non-modifiable
path		string optional	Path to the datastore directory on the owning node's root volume. For example: /mroot/etc/log/stats/ccma/kernel/ Attributes: non-creatable, non-modifiable
perf-archive-datafile-infos		perf-archive-datafile-info[] optional	Information about a single performance archive datafile within a datastore.
process		string optional	Name of Data ONTAP system process owning the datastore. Attributes: key, non-creatable, non-modifiable
size		size optional	Total size of the datastore (bytes). Attributes: non-creatable, non-modifiable

Element definition: **preset-detail-info**

[top]

Performance Preset Detail information, including specific objects, counter sets, instance filters, and associated sample period information for the Performance Archive.

Name	Range	Type	Description
counter-set		counter[]	Counter Name Set
generation-id	**[0..2^32-1]**	integer optional	Preset Detail Generation ID As input, this field must not be specified; as output, this field is always present.
instance-filters		filter[] optional	Instance Filters
object		string	Performance Object
sample-period		string optional	Performance Archive Sample Period As input, this field is optional; as output, this field is always present. Possible Values: none, 1s, 5s, 10s, 30s, 1m, 5m, 10m, 30m, 1h, 6h, 12h, 1d, 1w, config Default: none

Element definition: **preset-info**

[top]

Performance Preset information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	Preset Description Attributes: optional-for-create, modifiable
expiration-end-date		datetime optional	Date/Time Preset Expires Attributes: non-creatable, non-modifiable
expiration-length	**[0..1440]**	integer optional	Default Expiration Length (Minutes) Attributes: optional-for-create, modifiable
generation-id	**[0..2^32-1]**	integer optional	Preset Generation ID Attributes: non-creatable, non-modifiable
is-archive-enabled		boolean optional	Is Preset Archive-Enabled? Attributes: non-creatable, modifiable
is-read-only		boolean optional	Is Preset Read-Only? Attributes: non-creatable, non-modifiable
new-name		string optional	New Preset Name Attributes: non-creatable, modifiable
preset		string optional	Preset Name Attributes: key, required-for-create, non-modifiable
privilege		privilege-level	Preset Privilege Level Attributes: optional-for-create, modifiable

		optional	
uuid		uuid optional	Preset UUID Attributes: non-creatable, non-modifiable

Element definition: **privilege-level**

[top]

Level of Privilege

[none]

Element definition: **sample-info**

[top]

Sample Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
counter		string[] optional	List of Counters Attributes: non-creatable, non-modifiable
duration	**[0..2^32-1]**	integer optional	Sample Duration in Minutes Attributes: non-creatable, non-modifiable
error-description		string optional	Error in Sample Collection Attributes: non-creatable, non-modifiable
filter		string optional	Filter Data Attributes: non-creatable, non-modifiable
instance		string[] optional	List of Instances Attributes: non-creatable, non-modifiable
max	**[0..2^32-1]**	integer optional	Maximum Number of Instances Attributes: non-creatable, non-modifiable
object		string[] optional	List of Objects Attributes: non-creatable, non-modifiable
privilege		privilege-level optional	Privilege Level Attributes: non-creatable, non-modifiable
sample-id		string optional	Sample Identifier Attributes: key, non-creatable, non-modifiable
sample-status		sample-status optional	Sample Collection Status Attributes: non-creatable, non-modifiable Possible values: • "ready" , • "processing" , • "error" , • "deleting"

sample-type		sample-type optional	Sample Type Attributes: non-creatable, non-modifiable Possible values: • "user" , • "system"
sort-key		string optional	Counter Used For Sorting Attributes: non-creatable, non-modifiable
sort-order		sort-order optional	Sort Order Attributes: non-creatable, non-modifiable Possible values: • "ascending" - Ascending, • "descending" - Descending
start-time	**[0..2^31-1]**	integer optional	Sample Start Time Attributes: non-creatable, non-modifiable
stop-time	**[0..2^31-1]**	integer optional	Sample Stop Time Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **sample-type**

[top]

User|System Possible values:

- "user" ,
- "system"

[none]

Element definition: **sort-order**

[top]

ascending|descending Possible values:

- "ascending" - Ascending,
- "descending" - Descending

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **aggregation-data** [top]

Information related to aggregation that was done.

Name	Range	Type	Description
constituent-count	**[0..2^32-1]**	integer optional	Number of constituents used to aggregate this instance.
result		string optional	Each counter for an instance can be part of an aggregation set. Each counter can either have a strict or permissive aggregation. (Basically whether an aggregation with missing data samples in the aggregation set can be considered valid.) Possible values: "complete_aggregation", "partial_aggregation" • If aggregation is 'strict', and we have all of the data samples, we return: complete_aggregation • If aggregation is 'strict' and we DON'T have all of the data samples, we return: partial_aggregation • If aggregation is 'strict' and we only have one instance (such as a flex vole) we return: complete_aggregation • If aggregation is 'permissive', we always return: complete_aggregation (since the results are always valid) NOTE: Since a given node DOES NOT have enough information to determine all of the members of the set, we have to assume if we can't contact a given node/process that may contain a piece to be aggregated, the aggregation is incomplete. (For example, if we're trying to aggregate 'volume' stats, and we can't contact the local dblade or a remote node, we'll mark it as incomplete.)

Element definition: **counter** [top]

Counter Name

[none]

Element definition: **counter-data**

[top]

Value of a single counter of an instance of an object at the time of the call.

Name	Range	Type	Description
name		string	Name of the counter
value		string	Value of the counter. If the counter type is array, this is a comma separated list of values. The counter properties and units must be known in order to interpret this value. Refer to the perf API discussion for details on how raw counter values are interpreted.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **enabled-preset**

[top]

Archive-Enabled Performance Preset Info

Name	Range	Type	Description
preset		string optional	Enabled Performance Preset Names Attributes: non-creatable, non-modifiable

Element definition: **filter**

[top]

Instance filter specified as a comma-seperated list of "counter=value" pairs.

[none]

Element definition: **label-info**

[top]

Comma separated list of labels of an array type counter.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **perf-archive-datafile-info**

[top]

Information about a single performance archive datafile within a datastore.

Name	Range	Type	Description
duration	**[0..2^32-1]**	integer optional	Length of time between the first and last record stored in the datafile (ms). Attributes: non-creatable, non-modifiable
filenames		filename[] optional	Names of the individual files which comprise the datafile. Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Internal quota management index of the datafile. Attributes: non-creatable, non-modifiable
max-period		perf-archive-sample-period optional	Longest performance archive sample period stored in the datafile--all shorter periods will also be in the datafile. Attributes: non-creatable, non-modifiable
size		size optional	Size of the datafile (bytes). Attributes: non-creatable, non-modifiable
state		ccma-datafile-state optional	State of the datafile. Attributes: non-creatable, non-modifiable Possible values: • "partial" - datafile is incomplete, • "unlocked" - datafile is complete but may be deleted, • "locked" - datafile is complete and protected from deletion
timestamp		datetime optional	Timestamp of when the datafile was written to disk (UTC). Attributes: non-creatable, non-modifiable

Element definition: **privilege-level**

[top]

Level of Privilege

[none]

Element definition: **sample-status**

[top]

Ready|Processing|Error|Deleting Possible values:

- "ready" ,
- "processing" ,
- "error" ,
- "deleting"

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **ccma-datafile-state** [top]

Performance Archive Datafile State Possible values:

- "partial" - datafile is incomplete,
- "unlocked" - datafile is complete but may be deleted,
- "locked" - datafile is complete and protected from deletion

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filename** [top]

File Name (including extension)

[none]

Element definition: **perf-archive-sample-period** [top]

The performance archive sample period is the amount of time between data samples in the performance archive.

[none]

APIs in Category: **platform-cap**

platform-cap-get-iter	This interface is used to access information about the Controllers capabilities in the system.

platform-cap-get-iter

[top]

Iterate over a list of Platform Capability Support objects.

Input Name	Range	Type	Description
desired-attributes		platform-cap-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		platform-cap-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Platform Capability Support object. All Platform Capability Support objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		platform-cap-info[] optional	The list of attributes of Platform Capability Support objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Platform Capability Support objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **platform-cap-info**

[top]

Platform Capability Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
capability-id	**[0..2^32-1]**	integer optional	Capability ID Attributes: key, non-creatable, non-modifiable
name		string optional	Capability Name Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
supported		string optional	Supported? Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **portset**

portset-add
portset-create
portset-destroy
portset-get-iter
portset-list-info
portset-remove

Portsets are associated with igroups. If an igroup is not associated with a portset then an initiator that belongs to that igroup can see its target luns on all ports. If a portset is bound to an igroup then the initiator that belongs to that igroup can only see its target luns on the ports that belong to the portset.

portset-add

[top]

Add a port to an existing portset

Input Name	Range	Type	Description
portset-name		string	Name of portset.
portset-port-name		string	This is the name of the port that is to be added to the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will add the port from a specific filer. For example: "buxton:4a" The slotletter format will add the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_SET	
EVDISK_ERROR_PORTSET_HAS_PORT	
EVDISK_ERROR_PORTSET_TOO_MANY_PORTS	
EVDISK_ERROR_PORTSET_INVALID_PORT_NAME	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME	
EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
EVDISK_ERROR_PORTSET_WRONG_TYPE	
E_SAN_NOT_READY	

portset-create

[top]

Create a portset

Input Name	Range	Type	Description
portset-name		string	Name of the portset to create.
portset-		string	Protocols accepted for this portset. Possible values: "fcp", "iscsi", "mixed".

type			"iscsi" and "mixed" are available in Data ONTAP Cluster-Mode only.

Errno	Description
EVDISK_ERROR_PORTSET_ALREADY_EXIST	
EVDISK_ERROR_PORTSET_INVALID_TYPE	
EVDISK_ERROR_PORTSET_IC_DOWN	
EVDISK_ERROR_PORTSET_NO_SUCH_PORT	
EVDISK_ERROR_PORTSET_WRONG_TYPE	
EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME	
EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
E_SAN_NOT_READY	

portset-destroy

[top]

Destroys an existing portset. By default a set cannot be destroyed if there are existing igroup associated with that portset.

Input Name	Range	Type	Description
force		boolean optional	If 'false' or not specified, the request will fail if there are any igroups bound to this portset. If 'true', forcibly destroy the portset, even if there are existing igroup bindings. Best practice is to unbind all the associated igroups before destroying the igroup.
portset-name		string	Name of the portset to destroy.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_GROUP	
EVDISK_ERROR_PORTSET_CANT_DESTROY_BOUND_PORTSET	
EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
E_SAN_NOT_READY	

portset-get-iter

[top]

Iterate over a list of portset objects.

Input Name	Range	Type	Description
desired-attributes		portset-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		portset-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the portset object. All portset objects matching this query up to 'max-records' will be

		optional	returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		portset-info[] optional	The list of attributes of portset objects.
next-tag		string optional	Tag for the next call. Not present when there are no more portset objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

portset-list-info

[top]

Get information for portset(s).

Input Name	Range	Type	Description
portset-name		string optional	Name of portset. If specified, only information for that set is returned. If not specified, information for all portsets are returned.

Output Name	Range	Type	Description
portset-sets		portset-info[]	List of portsets.

Errno	Description
EVDISK_ERROR_PORTSET_NO_SUCH_GROUP	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	

portset-remove

[top]

Removes a port from a portset.

Input Name	Range	Type	Description
portset-name		string	Name of the portset.
portset-port-name		string	This is the name of the port that is to be removed from the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will remove the port from a specific filer. For example: "buxton:4a" The slotletter format will remove the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group.

Errno	Description
EVDISK_ERROR_PORTSET_INVALID_PORT_NAME	
EVDISK_ERROR_PORTSET_NO_SUCH_GROUP	
EVDISK_ERROR_PORTSET_NO_SUCH_PORT	
EVDISK_ERROR_PORTSET_TOO_FEW_PORTS	
EVDISK_ERROR_INITGROUP_ALREADY_BOUND	
E_SAN_NOT_READY	

Element definition: **portset-info**

[top]

Information about a portset.

Name	Range	Type	Description
initiator-group-info		initiator-group-name[] optional	Information about the initiator group(s) that are bound to the portset.
portset-name		string	Name of this portset.
portset-port-info		portset-port-name[] optional	Information about the ports belonging to the set.
portset-port-total	**[0..1024]**	integer	Total number of ports in the portset.
portset-type		string	Possible values: "fcp", "iscsi", "mixed".
portset-uuid		uuid optional	The Universally Unique Identifier of the portset. This field is available in Data ONTAP 8.3.0 and later.
vserver		string	Vserver containing this portset.

Element definition: **initiator-group-name**

[top]

The name of an initiator group

[none]

Element definition: **portset-port-name**

[top]

String representing a member of a portset. In Data ONTAP 7-Mode, the port name is of the format "filer:slotletter" or "slotletter". In Data ONTAP Cluster-Mode, the port name is the name of an FCP data lif or iSCSI target portal group.

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **qos**

cache-policy-get
cache-policy-get-iter
cache-policy-modify
cache-policy-modify-iter
qos-adaptive-policy-group-create
qos-adaptive-policy-group-delete
qos-adaptive-policy-group-delete-iter
qos-adaptive-policy-group-get
qos-adaptive-policy-group-get-iter
qos-adaptive-policy-group-modify
qos-adaptive-policy-group-modify-iter
qos-adaptive-policy-group-rename
qos-policy-group-create
qos-policy-group-delete
qos-policy-group-delete-iter
qos-policy-group-get
qos-policy-group-get-iter
qos-policy-group-modify
qos-policy-group-modify-iter
qos-policy-group-rename
qos-settings-read-ahead-create
qos-settings-read-ahead-destroy
qos-settings-read-ahead-destroy-iter
qos-settings-read-ahead-get
qos-settings-read-ahead-get-iter
qos-settings-read-ahead-modify
qos-settings-read-ahead-modify-iter
qos-workload-delete
qos-workload-delete-iter
qos-workload-get
qos-workload-get-iter
qos-workload-modify
qos-workload-modify-iter
qos-workload-policy-

These APIs enable management of Quality of Service (QoS) workloads and policy groups. QoS allows users to use a policy group to control a set of storage objects known as workloads - LUNs, volumes, files, or Vservers. Policy groups define measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. A typical user of these APIs will first create a policy group with the qos-policy-group-create API. The caller must specify a unique name for the new policy group. The UUID of the newly create policy group is returned by this API, and should be used to identify the policy group in all subsequent operations. After a policy group is created, one can use a storage object API to apply the policy group to the storage object. For example, the vserver-create API or the vserver-modify API can be used to apply the policy group to the Vserver when the qos-policy-group parameter is given.

count-get

cache-policy-get

[top]

Get the attributes of an Cache policy.

Input Name	Range	Type	Description
cache-policy-name		string	Name of the QoS Cache policy
desired-attributes		cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		cache-info	The attributes of the qos-settings-cache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cache-policy-get-iter

[top]

Iterate over the list of available Cache policies.

Input Name	Range	Type	Description
desired-attributes		cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-cache object. All qos-settings-cache objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cache-info[] optional	The list of attributes of qos-settings-cache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-settings-cache objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

cache-policy-modify

[top]

Modify an existing Cache policy. Only default field in the row is modifiable

Input Name	Range	Type	Description
cache-policy-name		string	Name of the QoS Cache policy
is-default		boolean optional	Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

cache-policy-modify-iter

[top]

Modify multiple Cache settings

Input Name	Range	Type	Description
attributes		cache-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-settings-cache objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-cache even when modification of a previous qos-settings-cache fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-cache even when the modification of a previous matching qos-settings-cache fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		cache-info	If modifying a specific qos-settings-cache, this input element must specify all keys. If modifying qos-settings-cache objects based on query, this input element must specify a query.
			If set to true, the API will return the list of qos-settings-cache

return-failure-list		boolean optional	objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-cache objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-settings-cache objects (just keys) that were successfully updated. If set to false, the list of qos-settings-cache objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		cache-policy-modify-iter-info[] optional	Information about qos-settings-cache objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-settings-cache objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-settings-cache objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-settings-cache objects that matched the query and were successfully updated.
success-list		cache-policy-modify-iter-info[] optional	The qos-settings-cache objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-adaptive-policy-group-create

[top]

Create an adaptive policy group. A unique name must be provided for the new adaptive policy group. A QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the adaptive policy group is associated.

Input Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75.
			Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values:

block-size		qos-block-size optional	• "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size.
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values: • "used_space" , • "allocated_space"
peak-iops		qos-tput-capacity	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size.
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values: • "allocated_space" , • "used_space"
policy-group		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.
return-record		boolean optional	If set to true, returns the qos-adaptive-policy-group on successful creation. Default: false
vserver		vserver-name	The Data Vserver to which the adaptive policy group belongs.

Output Name	Range	Type	Description
result		qos-adaptive-policy-group-info optional	The qos-adaptive-policy-group created (keys or the entire object if requested)

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED	

qos-adaptive-policy-group-delete

[top]

Delete single adaptive policy group. The default adaptive policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true.

Input Name	Range	Type	Description
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'.
policy-group		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-adaptive-policy-group-delete-iter

[top]

Delete multiple policy groups

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-adaptive-policy-group even when the operation fails for the qos-adaptive-policy-group. If set to false, the API will return on the first failure. Default: false
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-adaptive-policy-group even when the operation on a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of qos-adaptive-policy-group objects to be operated in this call. Default: 20
query		qos-adaptive-policy-group-info	If operating on a specific qos-adaptive-policy-group, this input element must specify all keys. If operating on qos-adaptive-policy-group objects based on query, this input element must specify a query.
return-		boolean	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not operated on due to some

failure-list		optional	error. If set to false, the list of qos-adaptive-policy-group objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-adaptive-policy-group objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-adaptive-policy-group-delete-iter-info[] optional	Information about qos-adaptive-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of qos-adaptive-policy-group objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-adaptive-policy-group objects that matched the query and were successfully processed.
success-list		qos-adaptive-policy-group-delete-iter-info[] optional	The qos-adaptive-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-adaptive-policy-group-get

[top]

Get the attributes of an adaptive policy group.

Input Name	Range	Type	Description
desired-attributes		qos-adaptive-policy-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-group		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9)

			or '-'.

Output Name	Range	Type	Description
attributes		qos-adaptive-policy-group-info	The attributes of the qos-adaptive-policy-group.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-adaptive-policy-group-get-iter

[top]

Iterate over list of adaptive policy groups.

Input Name	Range	Type	Description
desired-attributes		qos-adaptive-policy-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-adaptive-policy-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-adaptive-policy-group object. All qos-adaptive-policy-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-adaptive-policy-group-info[] optional	The list of attributes of qos-adaptive-policy-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-adaptive-policy-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-adaptive-policy-group-modify

[top]

Modify an adaptive policy group.

Input Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75.
block-size		qos-block-size optional	Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values: • "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity optional	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size.
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values: • "used_space" , • "allocated_space"
peak-iops		qos-tput-capacity optional	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size.
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values: • "allocated_space" , • "used_space"
policy-			Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and

group		string	'_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	

qos-adaptive-policy-group-modify-iter

[top]

Modify multiple adaptive policy groups

Input Name	Range	Type	Description
attributes		qos-adaptive-policy-group-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-adaptive-policy-group even when modification of a previous qos-adaptive-policy-group fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-adaptive-policy-group even when the modification of a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		qos-adaptive-policy-group-info	If modifying a specific qos-adaptive-policy-group, this input element must specify all keys. If modifying qos-adaptive-policy-group objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-adaptive-policy-group objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-adaptive-policy-group objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

failure-list		qos-adaptive-policy-group-modify-iter-info[] optional	Information about qos-adaptive-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-adaptive-policy-group objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-adaptive-policy-group objects that matched the query and were successfully updated.
success-list		qos-adaptive-policy-group-modify-iter-info[] optional	The qos-adaptive-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOBJECTNOTFOUND	

qos-adaptive-policy-group-rename

[top]

Rename a QoS adaptive policy group

Input Name	Range	Type	Description
new-name		string	New adaptive policy group name
policy-group-name		string	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_PG_ALREADY_EXISTS	

qos-policy-group-create

[top]

Create a policy group. A unique name must be provided for the new policy group. A QoS Policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated.

Input Name	Range	Type	Description
is-shared		boolean optional	Policy group shared state. Default: true.

max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
policy-group		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.
return-record		boolean optional	If set to true, returns the qos-policy-group on successful creation. Default: false
vserver		vserver-name	The Data Vserver to which the policy group belongs.

Output Name	Range	Type	Description
result		qos-policy-group-info optional	The qos-policy-group created (keys or the entire object if requested)

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED	

qos-policy-group-delete

[top]

Delete single policy group. The default policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true. Only user defined policy groups may be deleted.

Input Name	Range	Type	Description
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'.
policy-group		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-policy-group-delete-iter

[top]

Delete multiple policy groups

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-policy-group even when the operation fails for the qos-policy-group. If set to false, the API will return on the first failure. Default: false
force		boolean optional	Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'.
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-policy-group even when the operation on a previous matching qos-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of qos-policy-group objects to be operated in this call. Default: 20
query		qos-policy-group-info	If operating on a specific qos-policy-group, this input element must specify all keys. If operating on qos-policy-group objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were not operated on due to some error. If set to false, the list of qos-policy-group objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-policy-group objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-policy-group-delete-iter-info[] optional	Information about qos-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-policy-group objects to be operated on.

num-failed	**[0..2^32-1]**	integer optional	The number of qos-policy-group objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-policy-group objects that matched the query and were successfully processed.
success-list		qos-policy-group-delete-iter-info[] optional	The qos-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EOBJECTNOTFOUND	
E_QOS_PG_DEL_ERROR_WKLOADS_EXIST	

qos-policy-group-get

[top]

Get the attributes of a policy group.

Input Name	Range	Type	Description
desired-attributes		qos-policy-group-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-group		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Output Name	Range	Type	Description
attributes		qos-policy-group-info	The attributes of the qos-policy-group.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-policy-group-get-iter

[top]

Iterate over list of policy groups.

Input Name	Range	Type	Description
desired-attributes		qos-policy-group-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available

		info optional	will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-policy-group-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-policy-group object. All qos-policy-group objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-policy-group-info[] optional	The list of attributes of qos-policy-group objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-policy-group objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-policy-group-modify

[top]

Modify an existing policy group.

Input Name	Range	Type	Description
max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops.
			Name of the policy group. Policy group names must be unique and are

policy-group		string	restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
EOBJECTNOTFOUND	

qos-policy-group-modify-iter

[top]

Modify multiple policy groups

Input Name	Range	Type	Description
attributes		qos-policy-group-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-policy-group even when modification of a previous qos-policy-group fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-policy-group even when the modification of a previous matching qos-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		qos-policy-group-info	If modifying a specific qos-policy-group, this input element must specify all keys. If modifying qos-policy-group objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-policy-group objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-policy-group objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-policy-group-modify-iter-	Information about qos-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.

		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-policy-group objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-policy-group objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-policy-group objects that matched the query and were successfully updated.
success-list		qos-policy-group-modify-iter-info[] optional	The qos-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOBJECTNOTFOUND	

qos-policy-group-rename

[top]

Rename a QoS Policy Group

Input Name	Range	Type	Description
new-name		string	New Policy Group Name
policy-group-name		string	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'.

Errno	Description
E_QOS_INVALID_PG_NAME	
E_QOS_PG_ALREADY_EXISTS	

qos-settings-read-ahead-create

[top]

Create a new read-ahead setting. A unique name must be provided for the new read-ahead setting. If the 'default' field is set to true, these become the default read-ahead settings for settings that don't otherwise name read-ahead settings. Unless creating a new default, creating read-ahead settings should usually be assigned to an existing QoS setting.

Input Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment
default		boolean optional	Specifies whether this is the default readahead setting
disk-response-factor	**[1..10]**	integer optional	Disk response time factor
disk-response-	**[0..100]**	integer	Weight for disk response time aging (%)

weight		optional	
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted
force-dump		boolean optional	Force DUMP-style readahead
force-full		boolean optional	Force full-file readahead
force-none		boolean optional	Disable readahead
interarrival-weight	**[0..100]**	integer optional	Weight for interarrival time aging (%)
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%)
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate
max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms)
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms)
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks)
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us)
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms)
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks)
min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks)
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us)
overshoot	**[0..500]**	integer optional	Allowable overshoot (%)
read-ahead-class		qos-class optional	Readahead setting class Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
read-ahead-setting-name		string	Name of QoS Readahead Setting.
return-record		boolean optional	If set to true, returns the qos-settings-read-ahead on successful creation. Default: false
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling
		boolean	

use-async		optional	Use asynchronous speculation
use-feedback		boolean optional	Provide cache-miss feedback
use-histogram		boolean optional	Use Histogram-based predictions
use-timing		boolean optional	Use timing algorithms

Output Name	Range	Type	Description
result		qos-settings-read-ahead-info optional	The qos-settings-read-ahead created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

qos-settings-read-ahead-destroy

[top]

Destroy single read-ahead setting. The default setting may not be destroyed. The setting may not be attached to any workloads. Only user defined settings may be destroyed.

Input Name	Range	Type	Description
read-ahead-setting-name		string	Name of QoS Readahead Setting.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-settings-read-ahead-destroy-iter

[top]

Destroy multiple read-ahead settings.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1

max-records	**[1..2^32-1]**	integer optional	The maximum number of qos-settings-read-ahead objects to delete in this call. Default: 20
query		qos-settings-read-ahead-info	If deleting a specific qos-settings-read-ahead, this input element must specify all keys. If deleting multiple qos-settings-read-ahead objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not deleted due to some error. If set to false, the list of qos-settings-read-ahead objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully deleted. If set to false, the list of qos-settings-read-ahead objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-settings-read-ahead-destroy-iter-info[] optional	Information about qos-settings-read-ahead objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-settings-read-ahead objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-settings-read-ahead objects that matched the query and were successfully deleted.
success-list		qos-settings-read-ahead-destroy-iter-info[] optional	The qos-settings-read-ahead objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-settings-read-ahead-get

[top]

Get the attributes of a read-ahead setting.

Input Name	Range	Type	Description
		qos-	

desired-attributes		settings-read-ahead-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
read-ahead-setting-name		string	Name of QoS Readahead Setting.

Output Name	Range	Type	Description
attributes		qos-settings-read-ahead-info	The attributes of the qos-settings-read-ahead.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-settings-read-ahead-get-iter

[top]

Iterate over list of read-ahead settings.

Input Name	Range	Type	Description
desired-attributes		qos-settings-read-ahead-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-settings-read-ahead-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-read-ahead object. All qos-settings-read-ahead objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		qos-settings-read-ahead-info[] optional	The list of attributes of qos-settings-read-ahead objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-settings-read-ahead objects to return.
	[0..2^32-		

num-records	**1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-settings-read-ahead-modify

[top]

Modify an existing read-ahead setting.

Input Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment
default		boolean optional	Specifies whether this is the default readahead setting
disk-response-factor	**[1..10]**	integer optional	Disk response time factor
disk-response-weight	**[0..100]**	integer optional	Weight for disk response time aging (%)
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted
force-dump		boolean optional	Force DUMP-style readahead
force-full		boolean optional	Force full-file readahead
force-none		boolean optional	Disable readahead
interarrival-weight	**[0..100]**	integer optional	Weight for interarrival time aging (%)
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%)
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate
max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms)
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms)
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks)
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us)
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms)
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks)

min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks)
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us)
overshoot	**[0..500]**	integer optional	Allowable overshoot (%)
read-ahead-setting-name		string	Name of QoS Readahead Setting.
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling
use-async		boolean optional	Use asynchronous speculation
use-feedback		boolean optional	Provide cache-miss feedback
use-histogram		boolean optional	Use Histogram-based predictions
use-timing		boolean optional	Use timing algorithms

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-settings-read-ahead-modify-iter

[top]

Modify multiple read-ahead settings

Input Name	Range	Type	Description
attributes		qos-settings-read-ahead-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-read-ahead even when modification of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-read-ahead even when the modification of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
		qos-settings-	If modifying a specific qos-settings-read-ahead, this input element

query		read-ahead-info	must specify all keys. If modifying qos-settings-read-ahead objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-read-ahead objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully updated. If set to false, the list of qos-settings-read-ahead objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-settings-read-ahead-modify-iter-info[] optional	Information about qos-settings-read-ahead objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-settings-read-ahead objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-settings-read-ahead objects that matched the query and were successfully updated.
success-list		qos-settings-read-ahead-modify-iter-info[] optional	The qos-settings-read-ahead objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-workload-delete

[top]

Delete a single workload. Only user defined workloads may be deleted.

Input Name	Range	Type	Description
workload-name		string	User visible name of QoS workload.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

qos-workload-delete-iter

[top]

Delete multiple workloads. Only user defined workloads may be deleted.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue deleting the next matching qos-workload even when the deletion of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-workload even when the deletion of a previous matching qos-workload fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of qos-workload objects to delete in this call. Default: 20
query		qos-workload-info	If deleting a specific qos-workload, this input element must specify all keys. If deleting multiple qos-workload objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were not deleted due to some error. If set to false, the list of qos-workload objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were successfully deleted. If set to false, the list of qos-workload objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-workload-delete-iter-info[] optional	Information about qos-workload objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-workload objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-workload objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-workload objects that matched the query and were successfully deleted.
		qos-workload-	The qos-workload objects that were successfully deleted. This

success-list		delete-iter-info[] optional	element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-workload-get

[top]

Get the attributes of a workload.

Input Name	Range	Type	Description
desired-attributes		qos-workload-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
workload-name		string	User visible name of QoS workload.

Output Name	Range	Type	Description
attributes		qos-workload-info	The attributes of the qos-workload.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

qos-workload-get-iter

[top]

Iterate over list of workloads.

Input Name	Range	Type	Description
desired-attributes		qos-workload-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		qos-workload-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-workload object. All qos-workload objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		qos-workload-info[] optional	The list of attributes of qos-workload objects.
next-tag		string optional	Tag for the next call. Not present when there are no more qos-workload objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

qos-workload-modify

[top]

Modify an existing workload. This may be used to rename the workload, modify the workload's ID, its class, or its category.

Input Name	Range	Type	Description
read-ahead		string optional	Name for a read-ahead tunable policy.
workload-name		string	User visible name of QoS workload.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

qos-workload-modify-iter

[top]

Modify multiple workloads

Input Name	Range	Type	Description
attributes		qos-workload-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue modifying the next matching qos-workload even when modification of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-workload even when the modification of a previous matching qos-workload fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum

			or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		qos-workload-info	If modifying a specific qos-workload, this input element must specify all keys. If modifying qos-workload objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were not modified due to some error. If set to false, the list of qos-workload objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of qos-workload objects (just keys) that were successfully updated. If set to false, the list of qos-workload objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		qos-workload-modify-iter-info[] optional	Information about qos-workload objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching qos-workload objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of qos-workload objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of qos-workload objects that matched the query and were successfully updated.
success-list		qos-workload-modify-iter-info[] optional	The qos-workload objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

qos-workload-policy-count-get

[top]

Get the cluster-wide QoS policy-group and workload count.

Input Name	Range	Type	Description
desired-attributes		qos-workload-policy-count-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		qos-workload-policy-count-info	The attributes of the qos-workload-policy-count.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cache-class		qos-class optional	Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
cache-policy-name		string optional	Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable
is-default		boolean optional	Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable
is-lopri-data		boolean optional	Cache Lopri Attributes: non-creatable, non-modifiable
is-meta-data		boolean optional	Cache Metadata Attributes: non-creatable, non-modifiable
is-normal-data		boolean optional	Cache Normal Data Blocks Attributes: non-creatable, non-modifiable
is-randomwrite-data		boolean optional	Cache Random Write Blocks Attributes: non-creatable, non-modifiable
is-readahead-data		boolean optional	Cache Readahead Blocks Attributes: non-creatable, non-modifiable

Element definition: **cache-policy-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-cache object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-settings-cache-key		cache-info	The keys for the qos-settings-cache object to which the modify operation applies.

Element definition: **qos-adaptive-policy-group-delete-iter-info**

[top]

Information about the operation that was attempted/performed against qos-adaptive-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-adaptive-policy-group-key		qos-adaptive-policy-group-info	The keys for the qos-adaptive-policy-group object to which the operation applies.

Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable

block-size		qos-block-size optional	Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values: • "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity optional	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values: • "used_space" , • "allocated_space"
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable
peak-iops		qos-tput-capacity optional	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values: • "allocated_space" , • "used_space"
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable
uuid		uuid optional	Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Data Vserver to which the adaptive policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-adaptive-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-adaptive-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-adaptive-policy-group-key		qos-adaptive-policy-group-info	The keys for the qos-adaptive-policy-group object to which the modify operation applies.

Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

Element definition: **qos-peak-iops-allocation** [top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

Element definition: **qos-policy-group-delete-iter-info** [top]

Information about the operation that was attempted/performed against qos-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-policy-group-key		qos-policy-group-info	The keys for the qos-policy-group object to which the operation applies.

Element definition: **qos-policy-group-info** [top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-auto-generated		boolean optional	Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable
is-shared		boolean optional	Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable

max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this policy group. Attributes: non-creatable, non-modifiable
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable
policy-group-class		qos-class optional	Class for the policy group. Attributes: non-creatable, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
uuid		uuid optional	Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-policy-group object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.

error-message		string optional	Error description, if the modify operation caused an error.
qos-policy-group-key		qos-policy-group-info	The keys for the qos-policy-group object to which the modify operation applies.

Element definition: **qos-settings-read-ahead-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-settings-read-ahead object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-settings-read-ahead-key		qos-settings-read-ahead-info	The keys for the qos-settings-read-ahead object to which the deletion applies.

Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment Attributes: optional-for-create, modifiable
default		boolean optional	Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable
disk-response-factor	**[1..10]**	integer optional	Disk response time factor Attributes: optional-for-create, modifiable
disk-response-weight	**[0..100]**	integer optional	Weight for disk response time aging (%) Attributes: optional-for-create, modifiable
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable
force-dump		boolean optional	Force DUMP-style readahead Attributes: optional-for-create, modifiable
force-full		boolean optional	Force full-file readahead Attributes: optional-for-create, modifiable
force-none		boolean optional	Disable readahead Attributes: optional-for-create, modifiable
interarrival-		integer	Weight for interarrival time aging (%) Attributes:

weight	**[0..100]**	optional	optional-for-create, modifiable
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate Attributes: optional-for-create, modifiable
max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms) Attributes: optional-for-create, modifiable
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate Attributes: optional-for-create, modifiable
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms) Attributes: optional-for-create, modifiable
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable
min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
overshoot	**[0..500]**	integer optional	Allowable overshoot (%) Attributes: optional-for-create, modifiable
read-ahead-class		qos-class optional	Readahead setting class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
read-ahead-setting-name		string optional	Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling Attributes: optional-for-create, modifiable
use-async		boolean optional	Use asynchronous speculation Attributes: optional-for-create, modifiable
use-feedback		boolean optional	Provide cache-miss feedback Attributes: optional-for-create, modifiable
use-histogram		boolean optional	Use Histogram-based predictions Attributes: optional-for-create, modifiable
use-timing		boolean optional	Use timing algorithms Attributes: optional-for-create, modifiable

Element definition: **qos-settings-read-ahead-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-read-ahead object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-settings-read-ahead-key		qos-settings-read-ahead-info	The keys for the qos-settings-read-ahead object to which the modify operation applies.

Element definition: **qos-tput**

[top]

QoS throughput type

[none]

Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

Element definition: **qos-workload-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-workload object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
qos-workload-key		qos-workload-info	The keys for the qos-workload object to which the deletion applies.

Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
category		string optional	Category used to identify the workload. Attributes: non-creatable, non-modifiable
file		string optional	Name for a file workload. Attributes: optional-for-create, non-modifiable
is-adaptive		boolean optional	Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable
is-constituent		boolean optional	Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable
lun		string optional	Name for a lun workload. Attributes: optional-for-create, non-modifiable
max-throughput		qos-tput optional	Maximum throughput for the workload. Attributes: non-creatable, non-modifiable
min-throughput		qos-tput optional	Minimum throughput for the workload. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name for a QoS policy group. Attributes: non-creatable, non-modifiable
qtree		string optional	Name for a qtree workload. Attributes: optional-for-create, non-modifiable
read-ahead		string optional	Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable
volume		string optional	Name for a volume workload. Attributes: optional-for-create, non-modifiable
vserver		string optional	Name for a vserver workload. Attributes: optional-for-create, non-modifiable
wid	**[0..2^32-1]**	integer optional	Internal identifier for workload. Attributes: non-creatable, non-modifiable
workload-class		qos-class optional	Class for the workload. Attributes: non-creatable, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
workload-name		string optional	User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable
workload-uuid		uuid optional	Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable

Element definition: **qos-workload-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-workload object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
qos-workload-key		qos-workload-info	The keys for the qos-workload object to which the modify operation applies.

Element definition: **qos-workload-policy-count-info**

[top]

Information about QoS policy-groups and workloads. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
max-user-policies	**[0..2^32-1]**	integer optional	Max supported user-defined policy groups Attributes: non-creatable, non-modifiable
max-user-workloads	**[0..2^32-1]**	integer optional	Max supported user-defined workloads Attributes: non-creatable, non-modifiable
total-user-policies	**[0..2^32-1]**	integer optional	Total configured user-defined policy groups Attributes: non-creatable, non-modifiable
total-user-workloads	**[0..2^32-1]**	integer optional	Total configured user-defined workloads Attributes: non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cache-class		qos-class optional	Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
cache-policy-name		string optional	Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable
is-default		boolean optional	Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable
is-lopri-data		boolean optional	Cache Lopri Attributes: non-creatable, non-modifiable
is-meta-data		boolean optional	Cache Metadata Attributes: non-creatable, non-modifiable
is-normal-data		boolean optional	Cache Normal Data Blocks Attributes: non-creatable, non-modifiable
is-randomwrite-data		boolean optional	Cache Random Write Blocks Attributes: non-creatable, non-modifiable
is-readahead-data		boolean optional	Cache Readahead Blocks Attributes: non-creatable, non-modifiable

Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
absolute-min-iops		qos-tput optional	Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops =

			500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable
block-size		qos-block-size optional	Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values: • "any" , • "4k" , • "8k" , • "16k" , • "32k" , • "64k" , • "128k"
expected-iops		qos-tput-capacity optional	Expected IOPS. Specifies the minimum expected IOPS per TB|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable
expected-iops-allocation		qos-expected-iops-allocation optional	Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values: • "used_space" , • "allocated_space"
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable
peak-iops		qos-tput-capacity optional	Peak IOPS. Specifies the maximum possible IOPS per TB|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable
peak-iops-allocation		qos-peak-iops-allocation optional	Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values: • "allocated_space" , • "used_space"
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable
uuid		uuid optional	Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable
		vserver-	

vserver		name optional	The Data Vserver to which the adaptive policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

Element definition: **qos-peak-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

Element definition: **qos-policy-group-info**

[top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-auto-generated		boolean optional	Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable
is-shared		boolean optional	Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable
max-throughput		qos-tput optional	Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
min-throughput		qos-tput optional	Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable
num-workloads	**[0..2^32-1]**	integer optional	Number of workloads under this policy group. Attributes: non-creatable, non-modifiable
pgid	**[0..2^32-1]**	integer optional	The ID used to identify the policy group. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes:

			key, required-for-create, non-modifiable
policy-group-class		qos-class optional	Class for the policy group. Attributes: non-creatable, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
uuid		uuid optional	Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable

Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
align-blocks	**[8..256]**	integer optional	Block alignment Attributes: optional-for-create, modifiable
default		boolean optional	Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable
disk-response-factor	**[1..10]**	integer optional	Disk response time factor Attributes: optional-for-create, modifiable
disk-response-weight	**[0..100]**	integer optional	Weight for disk response time aging (%) Attributes: optional-for-create, modifiable
early-count	**[0..1024]**	integer optional	Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable
force-dump		boolean optional	Force DUMP-style readahead Attributes: optional-for-create, modifiable
force-full		boolean optional	Force full-file readahead Attributes: optional-for-create, modifiable
force-none		boolean optional	Disable readahead Attributes: optional-for-create, modifiable
interarrival-weight	**[0..100]**	integer optional	Weight for interarrival time aging (%) Attributes: optional-for-create, modifiable
jitter	**[0..100]**	integer optional	Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable
max-blocks	**[64..1024]**	integer optional	Maximum blocks to speculate Attributes: optional-for-create, modifiable

max-deadline	**[100000..5000000]**	integer optional	Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable
max-disk-response-time	**[100..500000]**	integer optional	Maximum disk response time (ms) Attributes: optional-for-create, modifiable
max-gap	**[512..4096]**	integer optional	Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable
max-range	**[1024..40960]**	integer optional	Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
max-retire-time	**[10000..10000000]**	integer optional	Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
metadata-blocks	**[0..2048]**	integer optional	Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable
min-blocks	**[64..1024]**	integer optional	Minimum blocks to speculate Attributes: optional-for-create, modifiable
min-disk-response-time	**[100..50000]**	integer optional	Minimum disk response time (ms) Attributes: optional-for-create, modifiable
min-file-histogram	**[8192..33554432]**	integer optional	Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable
min-range	**[1024..40960]**	integer optional	Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable
min-retire-time	**[10000..10000000]**	integer optional	Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable
overshoot	**[0..500]**	integer optional	Allowable overshoot (%) Attributes: optional-for-create, modifiable
read-ahead-class		qos-class optional	Readahead setting class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
read-ahead-setting-name		string optional	Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable
smallfile-blocks	**[0..128]**	integer optional	Maximum blocks for small-file handling Attributes: optional-for-create, modifiable
use-async		boolean optional	Use asynchronous speculation Attributes: optional-for-create, modifiable
use-feedback		boolean optional	Provide cache-miss feedback Attributes: optional-for-create, modifiable
use-histogram		boolean optional	Use Histogram-based predictions Attributes: optional-for-create, modifiable
use-timing		boolean optional	Use timing algorithms Attributes: optional-for-create, modifiable

Element definition: **qos-tput**

[top]

QoS throughput type

[none]

Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
category		string optional	Category used to identify the workload. Attributes: non-creatable, non-modifiable
file		string optional	Name for a file workload. Attributes: optional-for-create, non-modifiable
is-adaptive		boolean optional	Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable
is-constituent		boolean optional	Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable
lun		string optional	Name for a lun workload. Attributes: optional-for-create, non-modifiable
max-throughput		qos-tput optional	Maximum throughput for the workload. Attributes: non-creatable, non-modifiable
min-throughput		qos-tput optional	Minimum throughput for the workload. Attributes: non-creatable, non-modifiable
policy-group		string optional	Name for a QoS policy group. Attributes: non-creatable, non-modifiable
qtree		string optional	Name for a qtree workload. Attributes: optional-for-create, non-modifiable
read-ahead		string optional	Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable
volume		string optional	Name for a volume workload. Attributes: optional-for-create, non-modifiable
vserver		string optional	Name for a vserver workload. Attributes: optional-for-create, non-modifiable
wid	**[0..2^32-1]**	integer optional	Internal identifier for workload. Attributes: non-creatable, non-modifiable
			Class for the workload. Attributes: non-creatable, non-modifiable

workload-class		qos-class optional	Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control"
workload-name		string optional	User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable
workload-uuid		uuid optional	Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

Element definition: **qos-tput**

[top]

QoS throughput type

[none]

APIs in Category: **qtree**

qtree-create
qtree-delete
qtree-delete-async
qtree-list-iter
qtree-modify
qtree-rename

Because of possible large amount of information returned by qtree list, it is highly recommended to use the qtree list iterator APIs. There are three iterator APIs for qtree list: -start, -next, and -end.

qtree-create

[top]

Create a new qtree.

Input Name	Range	Type	Description
css-versioning	**[0..2]**	integer optional	Versioning state for CSS bucket on the qtree. Possible values: • 0 - disabled • 1 - enabled • 2 - suspended Default value is 0.
export-policy		string optional	Export policy of the qtree. If this input is not specified, the qtree will inherit the export policy of the parent volume.
mode		string optional	The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. For unclustered volumes, if this argument is missing, use the value specified in the option "wafl.default_qtree_mode". For clustered volumes, if this argument is missing, the permissions of the volume is used.
oplocks		string optional	Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled". Default value is the oplock mode of the volume.
qos-policy-group		string optional	QoS policy group of the qtree.
qtree		string	The path of the qtree, relative to the volume.
security-style		string optional	Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Default value is the security style of the volume.
volume		string	Name of the volume on which to create the qtree

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	

EQTREEEXISTS	
EQTREENOTOWNER	
EVOLUMEOFFLINE	
EVOLUMEREADONLY	
EONTAPI_EINVAL	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EQTREEMAX	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-delete

[top]

Delete the specified qtree.

For clustered volumes, all the quota rules that reference this qtree will be automatically deleted.

Input Name	Range	Type	Description
force		boolean optional	Force the deletion of the qtree even if it not empty. On using "force" option, ZAPI may take a long time to complete because the contents of the entire qtree will have to be deleted before it returns. Default: false For clustered volumes, if the qtree has a large number of files, it is recommended that the qtree-delete-async API be used.
qtree		string	Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >.

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EQTREENOTOWNER	
EVOLUMEOFFLINE	
EONTAPI_EINVAL	
EONTAPI_EALREADY	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EONTAPI_ENOTEMPTY	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	

EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-delete-async

[top]

Delete the specified qtree by spawning a background job. The jobid will be returned. The progress of the job can be tracked using the job APIs. All the quota rules that reference this qtree will be automatically deleted.

Input Name	Range	Type	Description
force		boolean optional	Force the deletion of the qtree even if it not empty. Default: false
qtree		string	Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer	The job id of the job that was queued to delete the qtree.
result-status		string	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EONTAPI_EINVAL	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	

EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-list-iter

[top]

Iterate over the list of qtrees in the cluster.

Input Name	Range	Type	Description
desired-attributes		qtree-info optional	Specify the attributes that should be returned in the qtree-info object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.
query		qtree-info optional	A query that specifies which qtrees need to be returned. A query could be specified on any number of attributes in the qtree-info object. All qtree objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		qtree-info[] optional	The list of attributes of qtree objects.
next-tag		string optional	Tag for the next iteration. Not present when there are no more qtree objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

qtree-modify

[top]

Modify the attributes of a qtree. If values are not provided for any of the fields, then that field will not be modified.

Input Name	Range	Type	Description
css-versioning	**[0..2]**	integer optional	Versioning state for CSS bucket on the qtree. Possible values: • 0 - disabled • 1 - enabled • 2 - suspended
export-		string	Export policy of the qtree. If empty string, the qtree will inherit the export

policy		optional	policy of the parent volume.
mode		string optional	The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.
oplocks		string optional	Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled".
qos-policy-group		string optional	QoS policy group of the qtree.
qtree		string	Name of the qtree.
security-style		string optional	Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Changing the security style of a qtree will change the visibility of existing Windows security descriptors (i.e. ACLs). This may affect the disk space usage values in the quota database. Turn quotas off and then on to re-compute disk space usage.
volume		string	Name of the volume containing the qtree to be modified.

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOLUMEREADONLY	
EQTREE_DOES_NOT_EXIST	
EONTAPI_EINVAL	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

qtree-rename

[top]

Renames the specified qtree to a new name specified by "new-qtree-name".

For clustered volumes, the qtree name in the quota rules will be automatically updated with the new qtree name.

Input Name	Range	Type	Description
new-qtree-			Path of new qtree. The path should be in this format: /vol/< volume name

name		string	>/< dst qtree name >.
qtree		string	Path of an existing qtree. The path should be in this format: /vol/< volume name >/< src qtree name >.

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EQTREENOTOWNER	
EVOLUMEOFFLINE	
EONTAPI_EEXIST	
EONTAPI_EROFS	
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EVSERVERNOTFOUND	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EINVALIDDSID	
EAMBIGUOUS_DSID	
EVOL_RESTRICTED	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

Element definition: **qtree-info**

[top]

Information about a single qtree.

Name	Range	Type	Description
css-versioning	**[0..2]**	integer optional	Indicates versioning state for CSS bucket on the qtree. Possible values: • 0 - disabled • 1 - enabled • 2 - suspended
export-policy		string optional	Export policy of the qtree.
id	**[0..4994]**	integer	Id of the qtree (unique within the volume), which is 0 if qtree is the volume itself.
is-export-policy-inherited		boolean optional	If true, this qtree inherits the export policy of the parent volume.
mode		string	The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes.

		optional	The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. This value is applicable and will be returned only if the security style of qtree is "unix" or "mixed".
oplocks		string	Indicates whether opportunistic locks are enabled on the qtree. Possible values: "enabled", "disabled".
qos-policy-group		string optional	QoS policy group of the qtree.
qtree		string	Name of the qtree, blank if qtree is the volume itself
security-style		string	Security style of the qtree. Possible values are "unix", "ntfs", or "mixed".
status		string	Status of the qtree. Possible values include: "normal", or "readonly".
volume		string	Name of the volume containing the qtree
vserver		string optional	The vserver in which the volume belongs

APIs in Category: **quota**

quota-add-entry
quota-delete-entry
quota-get-entry
quota-list-entries-iter
quota-modify-entry
quota-off
quota-on
quota-policy-copy
quota-policy-create
quota-policy-delete
quota-policy-delete-iter
quota-policy-get-iter
quota-policy-rename
quota-policy-rule-count-get
quota-policy-rule-count-get-iter
quota-report-iter
quota-resize
quota-set-entry
quota-status
quota-status-iter

The quota APIs are divided into two groups: management and editing. The management functions are: report, status, turning on, and turning off, while the editing functions are: list, add, delete, modify, and set.

For clustered volumes, the quota rules configured in the quota policies are manipulated by the editing functions; changes to these quota rules in the quota policies will affect the results of the APIs. Multiple quota policies can be defined for each vserver through the CLI. Each vserver can then be assigned a quota policy; the quota rules defined in that quota policy is used for quota on/resize operations for volumes in that vserver.

A quota is uniquely identifed by the type, target, volume, and qtree. There are three types: user, group, and tree. For example: a user quota is specified by type = user, target = zapi, volume = vol0, and qtree = /vol/vol0/lab. A group quota is specified by type = group, target = eng, volume = engvol, and qtree = "". Finally, a qtree quota is specifed by type = tree, target = /vol/engvol/bio, volume = engvol, and qtree = "". Default quotas are specified as an asterisk, "*", for the target. For example, a default user quota is specified by type = user, target = *, volume = vol1, and qtree = /vol/vol1/elvis.

Because of possible large amount of information returned by quota reports and quota lists, it is highly recommended to use the quota report and quota list iterator APIs. For clustered volumes only iterator APIs are available for quota report and quota lists.

quota-add-entry

[top]

Adds a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then an error is returned.

Input Name	Range	Type	Description
disk-limit		string optional	This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited.
file-limit		string optional	This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is unlimited.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false.
policy		string optional	Name of the quota policy in which the quota rule should be added. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field

			must be "".
quota-target		string	This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
soft-disk-limit		string optional	This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited.
soft-file-limit		string optional	This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is unlimited.
threshold		string optional	This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited.
volume		string	This is the volume name that the quota resides on.

Errno	Description
EQUOTAEXISTS	
EQUOTAINVALID	
EQUOTADIRECTIVE	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EQUOTA_POLICY_NOT_FOUND	
EINTERNALERROR	
EVOLUMEREADONLY	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-delete-entry

[top]

Deletes a quota entry specified by type, target, volume, and tree.

Input Name	Range	Type	Description
policy		string optional	Name of the quota policy in which the quota rule should be deleted. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".

volume		string	Name of the volume for the quota.

Errno	Description
EQUOTAINVALID	
EQUOTADIRECTIVE	
EQUOTADOESTEXIST	
EVSERVER_OP_NOT_ALLOWED	

quota-get-entry

[top]

Obtains a quota entry specified by type, target, volume, and tree.

Input Name	Range	Type	Description
policy		string optional	Name of the quota policy from which the quota rule should be obtained. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
volume		string	Name of the volume for the quota.

Output Name	Range	Type	Description
disk-limit		string	The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited.
file-limit		string	The number of files that the target can have. The value is "-" if the limit is unlimited.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user according to the user mapping configured for the vserver to which the volume belongs.
soft-disk-limit		string	The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited.
soft-file-limit		string	The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. The value is "-" if the limit is unlimited.
threshold		string	The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited.

Errno	Description
EQUOTAPARSEERROR	
EQUOTAINVALID	
EQUOTADOESNOTEXIST	
EQUOTADIRECTIVE	
EINTERNALERROR	

quota-list-entries-iter

[top]

Iterate over the list of quota rules in the cluster.

Input Name	Range	Type	Description
desired-attributes		quota-entry optional	Specify the attributes that should be returned in the quota-entry object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.
query		quota-entry optional	A query that specifies which quota rules need to be returned. A query could be specified on any number of attributes in the quota-entry object. All quota entry objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		quota-entry[] optional	The list of attributes of quota entry objects.
next-tag		string optional	Tag for the next iteration. Not present when there are no more quota entry objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

quota-modify-entry

[top]

Modifys a quota entry. If the type, target, volume, and tree exist, the entry is modified. If the type, target, volume, and tree do not exist, then an error is returned.

Input Name	Range	Type	Description
disk-limit		string optional	This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value.
file-limit		string optional	This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is the current value.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is the current value.
		string	Name of the quota policy in which the quota rule should be modified. If

policy		optional	this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
soft-disk-limit		string optional	This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value.
soft-file-limit		string optional	This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is the current value.
threshold		string optional	This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value.
volume		string	This is the volume name that the quota resides on.

Errno	Description
EQUOTADOESNOTEXIST	
EQUOTAINVALID	
EQUOTADIRECTIVE	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EQUOTA_POLICY_NOT_FOUND	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	

quota-off

[top]

Turns the quota subsystem off for a volume.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to turn quotas off.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-**	integer	The job id of the job that was queued to turn off quotas.

	1]	optional	
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EAPIERROR	
EVOLUMEMOUNTING	
EVOL_RESTRICTED	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-on

[top]

Starts to turn quotas on for a volume. A successful return from this API does not mean that quotas are on, merely that an attempt to start it has been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to enable quotas.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	error code, if the operation caused an error.
result-error-message		string optional	error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The job id of the job that was queued to turn on quotas.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOL_RESTRICTED	
EVOLUMEOFFLINE	

EAPIERROR	
EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EQUOTAS_NO_VALID_RULES	
EQUOTAS_DEFAULT_RULE_NOT_FOUND	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-policy-copy

[top]

Copy a quota policy

Input Name	Range	Type	Description
new-policy-name		string	New Policy Name
policy-name		string	Policy Name
vserver		string	Vserver

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-create

[top]

Creates a quota policy

Input Name	Range	Type	Description
policy-name		string	Policy Name
vserver		string	Vserver

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-delete

[top]

Deletes a specified quota policy

Input Name	Range	Type	Description
policy-name		string	Policy Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-delete-iter

[top]

Deletes a list of specified quota policies

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple quota-policy objects match a given query. If set to true, the API will continue deleting the next matching quota-policy even when the deletion of a previous quota-policy fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching quota-policy even when the deletion of a previous matching quota-policy fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of quota-policy objects to delete in this call. Default: 20
query		quota-policy-info	If deleting a specific quota-policy, this input element must specify all keys. If deleting multiple quota-policy objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of quota-policy objects (just keys) that were not deleted due to some error. If set to false, the list of quota-policy objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of quota-policy objects (just keys) that were successfully deleted. If set to false, the list of quota-policy objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		quota-policy-delete-iter-	Information about quota-policy objects that were not deleted due to some error. This element will be returned only if input element

		info[] optional	'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching quota-policy objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of quota-policy objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of quota-policy objects that matched the query and were successfully deleted.
success-list		quota-policy-delete-iter-info[] optional	The quota-policy objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

quota-policy-get-iter

[top]

Return a list of quota policies

Input Name	Range	Type	Description
desired-attributes		quota-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		quota-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy object. All quota-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		quota-policy-info[] optional	The list of attributes of quota-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more quota-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

quota-policy-rename

[top]

Rename a quota policy

Input Name	Range	Type	Description
new-policy-name		string	New Policy Name
policy-name		string	Policy Name
vserver		string	Vserver

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

quota-policy-rule-count-get

[top]

Get the attributes of the quota-policy-rule-count.

Input Name	Range	Type	Description
desired-attributes		quota-policy-rule-count-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		string	Policy Name
qtree		qtree-name	Qtree Name
quota-type		quota-type	Type Possible values: • "tree" , • "user" , • "group"
volume		volume-name	Volume Name

Output Name	Range	Type	Description
attributes		quota-policy-rule-count-info	The attributes of the quota-policy-rule-count.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

quota-policy-rule-count-get-iter

[top]

Iterate over a list of quota-policy-rule-count objects.

Input Name	Range	Type	Description
desired-attributes		quota-policy-rule-count-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		quota-policy-rule-count-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy-rule-count object. All quota-policy-rule-count objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		quota-policy-rule-count-info[] optional	The list of attributes of quota-policy-rule-count objects.
next-tag		string optional	Tag for the next call. Not present when there are no more quota-policy-rule-count objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

quota-report-iter

[top]

Iterate over the quota report in the cluster.

Input Name	Range	Type	Description
desired-attributes		quota optional	Specify the attributes that should be returned in the quota report object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.

path		string optional	A path (including a /vol/ prefix). If specified, the report will contain only quotas that apply to the specified path name.
query		quota optional	A query that specifies which quota report needs to be returned. A query could be specified on any number of attributes in the quota report object. All quota report objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		quota[] optional	The list of attributes of quota report objects.
next-tag		string optional	Tag for the next iteration. Not present when there are no more quota report objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

quota-resize

[top]

Starts an ONTAP operation to resize quotas for a volume. A successful return from this API does not mean that the operation has finished, merely that an attempt to start it been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
volume		string	Name of the volume on which to resize quotas.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The job id of the job that was queued to resize quotas.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOL_RESTRICTED	
EVOLUMEOFFLINE	
EAPIERROR	

EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	
EQUOTAS_NO_VALID_RULES	
EQUOTAS_DEFAULT_RULE_NOT_FOUND	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-set-entry

[top]

Sets a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then the entry is modified.

Input Name	Range	Type	Description
disk-limit		string optional	The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited.
file-limit		string optional	The number of files that the target can have. Set the value to "-" if the limit is to be unlimited.
perform-user-mapping		boolean optional	If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false.
policy		string optional	Name of the quota policy in which the quota rule should be set. If this field is not provided, then the current policy that has been assigned to the vserver will be used.
qtree		string	Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "".
quota-target		string	The quota target of the type specified. Possible values are <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >"
quota-type		string	The type of quota rule. Possible values are "user", "group", or "tree".
soft-disk-limit		string optional	The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited.
soft-file-limit		string optional	The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited.
threshold		string optional	The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited.
volume		string	Name of the volume for the quota.

Errno	Description

EQUOTAINVALID	
EQUOTADIRECTIVE	
EVSERVERNOTFOUND	
EVOLUMEDOESNOTEXIST	
EQUOTA_POLICY_NOT_FOUND	
EINTERNALERROR	
EVOLUMEREADONLY	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	

quota-status

[top]

Obtains the status of quotas

Input Name	Range	Type	Description
volume		string	Name of the volume whose quota status should be obtained.

Output Name	Range	Type	Description
percent-complete		integer optional	The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing".
quota-errors		string optional	Collection of quota errors including the value of the reason tag above. Each error will be separated by a newline, '\n'. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser.
reason		string optional	The last quota error message. If not present, there are no errors.
status		string	Primary status of quotas on the indicated volume; Possible values: • "corrupt" • "initializing" • "mixed" • "off" • "on" • "resizing" • "reverting" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status.
			Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are: • "done" • "etc scanning" • "finishing" • "mixed" • "none"

substatus		string	• "queue scan" • "scanning" • "setup" • "transferring rules" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EVOLUMEOFFLINE	
EAPIERROR	
EVSERVERNOTFOUND	
EONTAPI_EINVAL	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EAGGRFAILINGOVER	
EAGGRRELOCATING	
EAGGRMISMATCH	

quota-status-iter

[top]

Iterate over quota status for all volumes in the cluster

Input Name	Range	Type	Description
desired-attributes		quota-status-attributes optional	Specify the attributes that should be returned in the quota status object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this response.
query		quota-status-attributes optional	A query that specifies which quota status attributes need to be returned. A query could be specified on any number of attributes in the quota status object. All quota status objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration.

Output Name	Range	Type	Description
attributes-list		quota-status-attributes[] optional	The list of attributes of quota status objects.

next-tag		string optional	Tag for the next iteration. Not present when there are no more quota status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this response.

Errno	Description
EINTERNALERROR	

Element definition: **qtree-name**

[top]

Qtree Name

[none]

Element definition: **quota**

[top]

Information about a single quota.

Name	Range	Type	Description
disk-limit		string	Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited.
disk-used		string	Current amount of disk space, in kilobytes, used by the quota target.
disk-used-pct-disk-limit	**[0..2^32-1]**	integer optional	Current disk space used expressed as a percentage of hard disk limit.
disk-used-pct-soft-disk-limit	**[0..2^32-1]**	integer optional	Current disk space used expressed as a percentage of soft disk limit.
disk-used-pct-threshold	**[0..2^32-1]**	integer optional	Current disk space used expressed as a percentage of threshold.
file-limit		string	Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited.
files-used		string	Current number of files used by the quota target.
files-used-pct-file-limit	**[0..2^32-1]**	integer optional	Current number of files used expressed as a percentage of hard file limit.
files-used-pct-soft-file-limit	**[0..2^32-1]**	integer optional	Current number of files used expressed as a percentage of soft file limit.
quota-target		string	For an explicit quota, this value is a fully qualified quota target in the quota policy rule. Mulitple targets are comma separated. For a derived quota, the field is blank.
quota-type		string	The type of quota: user, group, or tree.
quota-users		quota-user[] optional	A list of quota users and group.
soft-disk-		string	Soft disk space limit, in kilobytes, for the quota target. The value is

limit			"-" if the limit is unlimited.
soft-file-limit		string	Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited.
threshold		string	Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited.
tree		string	Name of the qtree to which the quota is applied.
volume		string	Name of the volume to which the quota is applied.
vserver		string optional	The vserver name in which the volume belongs, for which the quota is applicable

Element definition: **quota-entry**

[top]

Information about a single quota rule.

Name	Range	Type	Description
disk-limit		string optional	Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited.
file-limit		string optional	Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited.
perform-user-mapping		boolean optional	If the value is true, user mapping will be performed for this rule.
policy		string optional	The quota policy to which the rule belongs.
qtree		string optional	Name of the qtree for the quota. It can be the qtree name or "" if no qtree. If there is an error in the quota entry, this value might not present. For tree rules, this field will be "".
quota-target		string optional	The quota target of the type specified. The value will be one of: <name>, <number>, or <path name>. Mulitple targets can be specified by a comma-separated list. Quota directives in quota policy rules are used to form the quota target. If there is an error in the quota entry, this value might not present. For explicit tree rules, this field will indicate the qtree name in the format "/vol/< volume name >/ < qtree name >".
quota-type		string optional	The type of quota rule. Possible values are "user", "group", or "tree". If there is an error in the quota entry, this value might not present.
soft-disk-limit		string optional	Soft disk space limit, in kilobytes, for the quota target. The value is "-" if the limit is unlimited.
soft-file-limit		string optional	Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited.
threshold		string optional	Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited.
volume		string optional	Name of the volume for the quota. If there is an error in the quota entry, this value might not present.
vserver		string optional	The vserver name.

Element definition: **quota-policy-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against quota-policy object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
quota-policy-key		quota-policy-info	The keys for the quota-policy object to which the deletion applies.

Element definition: **quota-policy-info**

[top]

Info about a quota policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
last-modified		datetime optional	Last Modified Attributes: non-creatable, non-modifiable
policy-name		string optional	Policy Name Attributes: key, required-for-create, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **quota-policy-rule-count-info**

[top]

Quota policy rule count(s) When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
count-where-policy	**[0..2^32-1]**	integer optional	Total rule count matching the given Vserver and quota policy. All volumes, qtrees, and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
			Subtotal of rules matching the given Vserver, quota policy, and

count-where-policy-volume	**[0..2^32-1]**	integer optional	volume. All qtrees and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
count-where-policy-volume-qtree	**[0..2^32-1]**	integer optional	Subtotal of rules matching the given Vserver, quota policy, volume, and qtree. All quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
count-where-policy-volume-qtree-type	**[0..2^32-1]**	integer optional	Subtotal of rules matching the given Vserver, quota policy, volume, qtree, and quota rule type. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
count-where-policy-volume-type	**[0..2^32-1]**	integer optional	Subtotal of rules matching the given Vserver, quota policy, volume, and quota rule type. All qtrees are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable
policy		string optional	Policy Name Attributes: key, non-creatable, non-modifiable
qtree		qtree-name optional	Qtree Name Attributes: key, non-creatable, non-modifiable
quota-type		quota-type optional	Type Attributes: key, non-creatable, non-modifiable Possible values: • "tree" , • "user" , • "group"
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **quota-status-attributes**

[top]

Attributes of quota status

Name	Range	Type	Description
percent-complete		integer optional	The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing".
quota-error-msgs		quota-error-msg[] optional	Collection of quota errors including the value of the reason tag above. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser.
reason		quota-error-msg optional	The last quota error message. If not present, there are no errors.
			Primary status of quotas on the indicated volume; Possible values: • "corrupt" • "initializing"

status		string	"mixed" • "off" • "on" • "resizing" • "reverting" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status.
substatus		string	Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are: • "done" • "etc_scanning" • "finishing" • "mixed" • "none" • "queue_scan" • "scanning" • "setup" • "transferring_rules" • "unknown" • "upgrading" If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus.
volume		string	Name of the volume to which the quota is applied.
vserver		string	The vserver name in which the volume belongs, for which the quota is applicable

Element definition: **quota-type**

[top]

tree|user|group Possible values:

- "tree" ,
- "user" ,
- "group"

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that

follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **qtree-name**

[top]

Qtree Name

[none]

Element definition: **quota-error-msg**

[top]

Information about the single quota error.

[none]

Element definition: **quota-user**

[top]

Information about a quota user or group.

Name	Range	Type	Description
quota-user-id		string	The id of the user. The quota-user-type determines the format. For uid and gid, the format is an integer. For sid, the format is the usual "S-*" style.
quota-user-name		string	Name of the user, group, or sid.
quota-user-type		string	The type of quota user. There are two possible values: sid (for Windows users), uid (for UNIX users), and gid (for UNIX groups).

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **secd**

secd-auth-get-claim-name
secd-auth-get-dc-info
secd-auth-show-ontap-admin-unix-creds-using-uid
secd-auth-show-ontap-admin-unix-creds-using-unix-user-name
secd-auth-sid-to-uid
secd-auth-sid-to-unix-user-name
secd-auth-translate-gid-to-groupname
secd-auth-translate-sid-to-win-user-name
secd-auth-translate-uid-to-username
secd-auth-translate-unix-group-name-to-gid
secd-auth-translate-unix-user-name-to-uid
secd-auth-translate-windows-user-name-to-sid
secd-auth-uid-to-sid
secd-connection-timeout-get
secd-connection-timeout-get-iter
secd-connection-timeout-modify
secd-dns-forward-lookup
secd-dns-srv-lookup
secd-name-mapping-show
secd-server-discovery-host
secd-server-discovery-reset
secd-server-discovery-site
secd-server-discovery-test

These APIs allow management of Access-check information per user

secd-auth-get-claim-name

[top]

Get Claim-Name from Claim-cn

Input Name	Range	Type	Description
claim-cn		string	The common name of claim used for getting claim name
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
claim-name		string	The claim name corresponding to the input claim CN

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-get-dc-info

[top]

Get the Active DC informartion give vfiler

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
client-site		string	The client site corresponding to the domain controller
domain-name		string	The domain name corresponding to the domain controller
flags	**[0..2^32-1]**	integer	flags correspondiing to the domain controller
forest-name		string	The forest name corresponding to the domain controller
guid		string	128 bit global unique identifier corresponding to the domain controller
netbios-hostname		string	The NetBIOS hostname corresponding to the domain controller
netbios-name		string	The NetBIOS name corresponding to the domain controller
server-site		string	The server site corresponding to the domain controller

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-show-ontap-admin-unix-creds-using-uid

[top]

Get UNIX credentials from UNIX user ID

Input Name	Range	Type	Description

node		string optional	The node on which command will be run
uid	**[0..2^32-1]**	integer	The UNIX user ID passed to get the UNIX credentials
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID corresponding to UNIX credentials
unix-login-shell		string	The UNIX login shell corresponding to the UNIX credentials
unix-user-name		string	The UNIX username passed to get the UNIX credentials

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-show-ontap-admin-unix-creds-using-unix-user-name

[top]

Get UNIX credentials from UNIX User Name

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
unix-user-name		string	The UNIX username passed to get the UNIX credentials
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID corresponding to UNIX credentials
uid	**[0..2^32-1]**	integer	The UNIX user ID passed to get the UNIX credentials
unix-login-shell		string	The UNIX login shell corresponding to the UNIX credentials

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-sid-to-uid

[top]

Get UNIX user ID from Windows SID

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
sid		string	The Windows SID to be looked up for its corresponding user ID
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
uid	**[0..2^32-1]**	integer	The UNIX user ID corresponding to the input SID

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-sid-to-unix-user-name

[top]

Get UNIX User Name from Windows SID

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
sid		string	The Windows SID to be looked up for its corresponding User Name
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
unix-user-name		string	The UNIX User Name corresponding to the input SID

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-gid-to-groupname

[top]

Translate Group ID to UNIX Group Name

Input Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID which needs to be translated
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
unix-group-name		string	The UNIX Group Name which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-sid-to-win-user-name

[top]

Translate SID to Windows User Name

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
sid		string	The Windows SID which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
win-name		string	The Windows Name which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-uid-to-username

[top]

Translate user ID to UNIX User Name

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
uid	**[0..2^32-1]**	integer	The UNIX user ID which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
unix-user-name		string	The UNIX User Name which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-unix-group-name-to-gid

[top]

Translate UNIX Group Name to Group ID

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
unix-group-name		string	The UNIX Group Name which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
gid	**[0..2^32-1]**	integer	The UNIX group ID which needs to be translated

Errno	Description
EINTERNALERROR	

Errno	Description
EOBJECTNOTFOUND	

secd-auth-translate-unix-user-name-to-uid

[top]

Translate UNIX User Name to user ID

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
unix-user-name		string	The UNIX User Name which needs to be translated
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
uid	**[0..2^32-1]**	integer	The UNIX user ID which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-translate-windows-user-name-to-sid

[top]

Translate Windows User Name to SID

Input Name	Range	Type	Description
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run
win-name		string	The Windows Name which needs to be translated

Output Name	Range	Type	Description
sid		string	The Windows SID which needs to be translated

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-auth-uid-to-sid

[top]

Get Windows SID from UNIX user ID

Input Name	Range	Type	Description
node		string optional	The node on which command will be run

uid	**[0..2^32-1]**	integer	The UNIX user ID to be looked up for its corresponding Windows SID
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
sid		string	The Windows SID corresponding to the input user ID

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-connection-timeout-get

[top]

Get the SecD connection timeout value for a Vserver

Input Name	Range	Type	Description
desired-attributes		secd-connection-timeout-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		secd-connection-timeout-info	The attributes of the secd.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

secd-connection-timeout-get-iter

[top]

Iterate through the SecD connection timeout values of the cluster

Input Name	Range	Type	Description
desired-attributes		secd-connection-timeout-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		secd-connection-timeout-	A query that specifies which objects to return. A query could be specified on any number of attributes in the secd object. All secd

		info optional	objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		secd-connection-timeout-info[] optional	The list of attributes of secd objects.
next-tag		string optional	Tag for the next call. Not present when there are no more secd objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

secd-connection-timeout-modify

[top]

Modify the SecD connection timeout value for a Vserver

Input Name	Range	Type	Description
connection-timeout	**[2..10]**	integer optional	Secd connection timeout in seconds

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

secd-dns-forward-lookup

[top]

DNS Forward Lookup for a Hostname

Input Name	Range	Type	Description
hostname		string	The hostname for which the lookup has to be done
lookup-type		string optional	The lookup type for the hostname passed
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description

ip-address		string	Ip address of the hostname passed

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-dns-srv-lookup

[top]

DNS Lookup for SRV records

Input Name	Range	Type	Description
lookup-string		string	The lookup string used to lookup the domain's authoritative name server
lookup-type		string optional	The lookup type for the domain's authoritative name server
name-servers		string[] optional	The name servers populated in the output
node		string optional	The node on which the command will be run
vserver		string	The Vserver for which the translation has to run

Output Name	Range	Type	Description
ip-address		string	IP Address result of SRV Lookup

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-name-mapping-show

[top]

Get Name Mappings configured for particular direction

Input Name	Range	Type	Description
direction		string	The direction for which the name mapping will be run
name		string	Username for which the Name Mapping will be run
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
result		string	Mapping for the given username

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-host

[top]

Host Information of the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run

Output Name	Range	Type	Description
ad-domain		string[]	The AD domain Name of the discovered server
cifs-domain		string[]	The CIFS domain Name of the discovered server
host-name		string[]	The host name of the discovered server
ip-address		string[]	IP address of the discovered server

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-reset

[top]

Reset the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
result		string	Result of the server discovery reset

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-site

[top]

Site of the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
site		string	Site information of the discovered server

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

secd-server-discovery-test

[top]

Test the Discovered Servers

Input Name	Range	Type	Description
node		string optional	The node on which command will be run
vserver		string	The Vserver where the lookup has to be done

Output Name	Range	Type	Description
result		string	Server discovery result of the test

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	

Element definition: **secd-connection-timeout-info**

[top]

SecD Connection Timeout When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connection-timeout	**[2..10]**	integer optional	Secd connection timeout in seconds Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver name Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **sectrace**

sectrace-find-or-create-filter
security-trace-filter-create
security-trace-filter-delete
security-trace-filter-get-iter
security-trace-filter-modify
security-trace-result-delete
security-trace-result-show

This set of ZAPIs allow setting up and managing permission check filters and logs. Permission tracing allows users to trace permission checks that are done during multiprotocol security access. These set of ZAPIs provide an interface to create, delete and modify security tracing filters. They also allow viewing and deleting of trace records that are generated as a result of the trace filters.

sectrace-find-or-create-filter

[top]

Input Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client.
name		string optional	Windows or Unix User Name to trace.
path		string optional	Path to match.
protocol		sectrace-protocol optional	The protocol for which the permission tracing is applicable.
trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well.

Output Name	Range	Type	Description
index	**[0..2^32-1]**	integer	Index for output

Errno	Description
E_CIFS_ERROR_SECURITY_TRACE_ENTRIES_OUT_OF_RANGE	
E_NFS_UI_SECURITY_TRACE_FLEXGROUP_ERROR	

security-trace-filter-create

[top]

Creates a new Security trace entry.

Input Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client.
enabled		enable optional	This is used to enable or disable the filter.
index	**[0..2^32-1]**	integer	internally created index for the filter.
path		string optional	Path to match.
protocols		sectrace-protocol[] optional	The protocols for which the permission tracing is applicable. Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
return-record		boolean optional	If set to true, returns the security-trace-filter on successful creation. Default: false
time-enabled	**[1..720]**	integer optional	The admin can specify a timeout for this filter after which it would be disabled.
trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well.
unix-name		string optional	UNIX user name or user ID to trace.
windows-name		string optional	Windows User Name to trace.

Output Name	Range	Type	Description
result		security-trace-filter-attributes optional	The security-trace-filter created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-trace-filter-delete

[top]

Deletes the specified Security trace entry.

Input Name	Range	Type	Description
index	**[0..2^32-1]**	integer	internally created index for the filter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-trace-filter-get-iter

[top]

Gives information about one or more Security trace entries.

Input Name	Range	Type	Description
desired-attributes		security-trace-filter-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-trace-filter-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-filter object. All security-trace-filter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-trace-filter-attributes[] optional	The list of attributes of security-trace-filter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-trace-filter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-trace-filter-modify

[top]

Modifies settings of a Security trace entry, even if it is in use.

Input Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client.
enabled		enable optional	This is used to enable or disable the filter.
index	**[0..2^32-1]**	integer	internally created index for the filter.
path		string optional	Path to match.
protocols		sectrace-protocol[] optional	The protocols for which the permission tracing is applicable. Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
time-enabled	**[1..720]**	integer optional	The admin can specify a timeout for this filter after which it would be disabled.

trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well.
unix-name		string optional	UNIX user name or user ID to trace.
windows-name		string optional	Windows User Name to trace.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-trace-result-delete

[top]

Delete the specified security tracing event record.

Input Name	Range	Type	Description
node		node-name	The cluster node on which the permission tracing event occured.
seqnum	**[0..2^64-1]**	integer	The sequence number of the permission tracing event.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-trace-result-show

[top]

Retrieve the list of permission tracing results for the cluster.

Input Name	Range	Type	Description
desired-attributes		security-trace-results-logs optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-trace-results-logs optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-result object. All security-trace-result objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		security-trace-results-logs[] optional	The list of attributes of security-trace-result objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-trace-result objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **sectrace-protocol**

[top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

Element definition: **security-trace-filter-attributes**

[top]

Security trace configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client. Attributes: optional-for-create, modifiable
enabled		enable optional	This is used to enable or disable the filter. Attributes: optional-for-create, modifiable
index	**[0..2^32-1]**	integer optional	internally created index for the filter. Attributes: key, required-for-create, non-modifiable
path		string optional	Path to match. Attributes: optional-for-create, modifiable
protocols		sectrace-protocol[] optional	The protocols for which the permission tracing is applicable. Attributes: optional-for-create, modifiable Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
time-enabled	**[1..720]**	integer optional	The admin can specify a timeout for this filter after which it would be disabled. Attributes: optional-for-create, modifiable
trace-allow		boolean optional	The deny events are traced by default. This option is to record trace results for allow events as well. Attributes: optional-for-create, modifiable
unix-name		string optional	UNIX user name or user ID to trace. Attributes: optional-for-create, modifiable
vserver		vserver-name optional	Vserver on which the permission tracing is applied. Attributes: key, non-creatable, non-modifiable
windows-name		string optional	Windows User Name to trace. Attributes: optional-for-create, modifiable

Element definition: **security-trace-results-logs**

[top]

List of security tracing results. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-ip		ip-address optional	The IP address of the client that triggered the permission tracing event. Attributes: required-for-create, non-modifiable
index	**[0..2^32-1]**	integer optional	The index of the filter corresponding to the permission tracing event. Attributes: required-for-create, non-modifiable
keytime		date optional	The date and time of day when the persmission tracing event occured. Attributes: required-for-create, non-modifiable
node		node-name optional	The cluster node on which the permission tracing event occured. Attributes: key, required-for-create, non-modifiable
path		string optional	The path of the file whose access triggered the permission tracing event. Attributes: required-for-create, non-modifiable
protocol		sectrace-protocol optional	Protocol for which the permission tracing is configured. Attributes: required-for-create, non-modifiable Possible values: • "cifs" - CIFS Protocol, • "nfs" - NFS Protocol
result		string optional	A brief explanation of the result of the security check. Attributes: required-for-create, non-modifiable
security-style		security-style optional	The security style of the file system where the persmission tracing event occured. Attributes: required-for-create, non-modifiable Possible values: • "security_none" - Security not Set, • "security_unix_modebits" - UNIX and UNIX permissions, • "security_unix_acl" - UNIX and NFSv4 ACL, • "security_unix_sd" - UNIX and NT ACL, • "security_mixed_modebits" - MIXED and UNIX permissions, • "security_mixed_acl" - MIXED and NFSv4 ACL, • "security_mixed_sd" - MIXED and NT ACL, • "security_ntfs_modebits" - NTFS and UNIX permissions, • "security_ntfs_acl" - NTFS and NT ACL, • "security_ntfs_sd" - NTFS and NT ACL, • "security_unix" - UNIX, • "security_mixed" - MIXED, • "security_ntfs" - NTFS, • "security_modebits" - UNIX permissions, • "security_acl" - ACL, • "security_sd" - SD
seqnum	**[0..2^64-1]**	integer optional	The sequence number of the permission tracing event. Attributes: key, required-for-create, non-modifiable
session-id	**[0..2^64-1]**	integer optional	The unique identifier for the CIFS session. Attributes: required-for-create, non-modifiable
share-name		string optional	CIFS Share name which has been accessed. Attributes: required-for-create, non-modifiable
unix-user		string optional	Mapped UNIX User who triggered the permission tracing event. Attributes: required-for-create, non-modifiable
user-name		string optional	Windows User who triggered the permission tracing event. Attributes: optional-for-create, non-modifiable
volume-name		string optional	Name of the volume that has been accessed. Attributes: required-for-create, non-modifiable
vserver		vserver-name	The Vserver on which the permission tracing event occured. Attributes:

		optional	key, non-creatable, non-modifiable

Element definition: **date** [top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **sectrace-protocol** [top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

Element definition: **security-style** [top]

Effective security style on file Possible values:

- "security_none" - Security not Set,
- "security_unix_modebits" - UNIX and UNIX permissions,
- "security_unix_acl" - UNIX and NFSv4 ACL,
- "security_unix_sd" - UNIX and NT ACL,
- "security_mixed_modebits" - MIXED and UNIX permissions,
- "security_mixed_acl" - MIXED and NFSv4 ACL,
- "security_mixed_sd" - MIXED and NT ACL,
- "security_ntfs_modebits" - NTFS and UNIX permissions,
- "security_ntfs_acl" - NTFS and NT ACL,
- "security_ntfs_sd" - NTFS and NT ACL,
- "security_unix" - UNIX,
- "security_mixed" - MIXED,
- "security_ntfs" - NTFS,
- "security_modebits" - UNIX permissions,
- "security_acl" - ACL,
- "security_sd" - SD

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **security**

security-config-get
security-config-modify
security-config-ocsp-disable
security-config-ocsp-enable
security-config-ocsp-get-iter
security-last-login-info
security-login-create
security-login-delete
security-login-delete-iter
security-login-expire-password
security-login-expire-password-iter
security-login-get
security-login-get-iter
security-login-lock
security-login-modify
security-login-modify-iter
security-login-modify-password
security-login-role-config-get
security-login-role-config-get-iter
security-login-role-config-modify
security-login-role-config-modify-iter
security-login-role-create
security-login-role-delete
security-login-role-delete-iter
security-login-role-get
security-login-role-get-iter
security-login-role-modify
security-login-role-modify-iter
security-login-unlock
security-login-whoami
security-protocol-get
security-protocol-modify
security-protocol-ssh-get
security-protocol-ssh-modify
security-saml-sp-create-async
security-saml-sp-destroy
security-saml-sp-get
security-saml-sp-modify
security-ssh-add
security-ssh-get-iter
security-ssh-remove
security-ssh-reset

This set of ZAPIs allow to manage security of the system.

security-config-get

[top]

Display Cluster Security Configuration

Input Name	Range	Type	Description
desired-attributes		security-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
interface		fips-interfaces	Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values: • "ssl"

Output Name	Range	Type	Description
attributes		security-config-info	The attributes of the security.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-config-modify

[top]

Modify Cluster Security Configuration

Input Name	Range	Type	Description
interface		fips-interfaces	Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values: • "ssl"
is-fips-enabled		boolean optional	Data ONTAP FIPS Mode.
supported-cipher-suites		string[] optional	Data ONTAP Supported Cipher Suites.
supported-ciphers		string optional	Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release.
supported-protocols		string[] optional	Data ONTAP Supported Protocols.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-config-ocsp-disable

[top]

Disable OCSP for one or more selected applications

Input Name	Range	Type	Description
application		string[]	Application Name Possible values: • 'autosupport' - AutoSupport, • 'audit_log' - Audit-Logging, • 'fabricpool' - FabricPool, • 'ems' - EMS, • 'kmip' - KMIP, • 'ldap_ad' - LDAP-AD, • 'ldap_nis_namemap' - LDAP-NIS-NameMap, • 'ssh' - SSH, • 'all' - All Applications

Errno	Description
E_SECURITY_CONFIG_ALL_CANNOT_COEXIST	

security-config-ocsp-enable

[top]

Enable OCSP for one or more selected applications

Input Name	Range	Type	Description
application		string[]	Application Name Possible values: • 'autosupport' - AutoSupport, • 'audit_log' - Audit-Logging, • 'fabricpool' - FabricPool, • 'ems' - EMS, • 'kmip' - KMIP, • 'ldap_ad' - LDAP-AD, • 'ldap_nis_namemap' - LDAP-NIS-NameMap, • 'ssh' - SSH, • 'all' - All Applications

Errno	Description
E_SECURITY_CONFIG_ALL_CANNOT_COEXIST	

security-config-ocsp-get-iter

[top]

Display OCSP Support Status for Applications

Input Name	Range	Type	Description
desired-attributes		security-config-ocsp optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-config-	A query that specifies which objects to return. A query could be specified on any number of attributes in the security object. All security objects matching

		ocsp optional	this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-config-ocsp[] optional	The list of attributes of security objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-last-login-info

[top]

Show the last login time, unsuccessful login attempts and role change since last login.

Input Name	Range	Type	Description
username		string	Name of user or group.
vserver		string	Name of vserver.

Output Name	Range	Type	Description
last-login-time		date optional	last successful login time
last-role-change		true-false optional	Role change since last login
last-unsuccessful-attempts		integer optional	Unsuccessful login attempts

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-login-create

[top]

Create a new user account associated with the specified application and authentication method. The new account can be local to ONTAP or an user/group configured in an external Active-Directory/LDAP/NIS server. In case of Active-Directory/LDAP/NIS group as the user account, access will be granted to its member users.

Input Name	Range	Type	Description
			Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi'

application		string	• 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
authentication-method		string	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters.
is-ldap-fastbind		boolean optional	Whether the Authentication is LDAP Fastbind or not.
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not.
is-password-hashed		boolean optional	This optionally specifies whether password entered by user is pre-hashed. This is ignored for creating snmp users. This is required for creating non-snmp users.
password		string optional	Password for the user account. This field is not required (and will be ignored if present) when creating a user for the SNMP application. It is required for all other applications.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
role-name		string optional	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver.
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'.
snmpv3-login-info		snmpv3-login-info optional	SNMPv3 user login information for 'usm' authentication method
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDUSERNAME	
EINVALIDAPPLICATION	
EINVALIDAUTHENTICATIONMETHOD	
EROLENOTFOUND	
EINVALID_ENGINE_ID	
E_INVALID_AUTHENTICATION_PROTOCOL	
E_INVALID_PRIVACY_PROTOCOL	
E_RSH_USER_CREATION_NOT_SUPPORTED	
E_TELNET_USER_CREATION_NOT_SUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDPASSWORD	
EINVALIDACCESS	
EASUPUSEROPERATIONFAILED	
E_COMMUNITY_CREATE_FAILED	
E_FAILED_TO_CREATE_SNMPV3_USER	
E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_SSH	
E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_FIRST_METHOD_PWD_PUB_NSSWITCH	
E_SECOND_AUTH_METHOD_SHOULD_BE_DIFF_FIRST_METHOD	
E_AUTH_METHOD_ALREADY_EXISTS_COMPLEMENTARY_PAIR	
E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY	
E_RBAC_FAILED_TO_DISCOVER_SNMPV3_ENGINEID	
E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_ADMIN_VSERVER	
E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_SNMPV3_USER	
E_RBAC_ALL_ZEROS_REMOTEIP	
E_RBAC_ENGINEID_ASSOCIATED_WITH_EXISTING_USERNAME	
E_SNMPV3_CLIENT_UNAVAILABLE	

security-login-delete

[top]

Delete an existing user account object.

Input Name	Range	Type	Description
application		string	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
			Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:

authentication-method		string	• 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EAPPLICATIONNOTFOUND	
EAUTHENTICATIONMETHODNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDACCESS	
EASUPUSEROPERATIONFAILED	

security-login-delete-iter

[top]

Delete an existing user account or a group of user account objects.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue deleting the next matching security login account even when the deletion of a previous security login account fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login account even when the deletion of a previous matching security login account fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-**	integer	The maximum number of security login account objects to delete in this call.

	1]	optional	Default: 20
query		security-login-account-info	If deleting a specific security login account, this input element must specify all keys. If deleting multiple security login account objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were not deleted due to some error. If set to false, the list of security login account objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were successfully deleted. If set to false, the list of security login account objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-delete-iter-info[] optional	Information about security login account objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login account objects to be deleted.
num-failed	[0..2^32-1]	integer optional	Number of security login account objects that matched the query, but were not deleted due to some error.
num-succeeded	[0..2^32-1]	integer optional	The number of security login account objects that matched the query and were successfully deleted.
success-list		security-login-delete-iter-info[] optional	The security login account objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-expire-password

[top]

If the user has a password enabled, this API will cause it to immediately expire. Current login sessions will still remain available.

Input Name	Range	Type	Description
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. Possible values: • sha512 • sha256 • md5
user-name		string	Name of the user whose password need to be expired.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	

security-login-expire-password-iter

[top]

Iterate over a list of user account that uses password as authentication method to immedialtely expire their passwords. Current login sessions will still remain available.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security objects match a given query. If set to true, the API will continue with the next matching security even when the operation fails for the security. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security even when the operation on a previous matching security fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security objects to be operated in this call. Default: 20
query		security-login-password-user-info	If operating on a specific security, this input element must specify all keys. If operating on security objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security objects (just keys) that were not operated on due to some error. If set to false, the list of security objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security objects (just keys) that were successfully operated on. If set to false, the list of security objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-expire-password-iter-info[] optional	Information about security objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of security objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security objects that matched the query and were successfully processed.
success-list		security-login-expire-password-iter-info[] optional	The security objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

security-login-get

[top]

Get the attributes of a user account.

Input Name	Range	Type	Description
application		string	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
authentication-method		string	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
desired-attributes		security-login-account-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
		security-login-	

attributes		account-info	The attributes of the security login account.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EAPPLICATIONNOTFOUND	
EAUTHENTICATIONMETHODNOTFOUND	

security-login-get-iter

[top]

Iterate over a list of user account objects.

Input Name	Range	Type	Description
desired-attributes		security-login-account-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-login-account-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login account object. All security login account objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-login-account-info[] optional	The list of attributes of security login account objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login account objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-login-lock

[top]

Lock a user account that uses password as the authentication method. Returns an error if the user account does not use password authentication.

Input Name	Range	Type	Description
user-name		string	Name of the user account to be locked.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EUSERLOCKFAILED	
E_LOCK_NOT_SUPPORTED	
EINVALIDACCESS	

security-login-modify

[top]

Modify the attributes of a user account object. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
application		string	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' .
authentication-method		string	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters.
is-ldap-fastbind		boolean optional	Whether the Authentication is LDAP Fastbind or not.
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not.
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is

			a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model).
role-name		string	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver.
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'.
user-name		string	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EUSERNOTFOUND	
EAPPLICATIONNOTFOUND	
EAUTHENTICATIONMETHODNOTFOUND	
EROLENOTFOUND	
E_NO_PASSWORD	
E_INVALID_AUTHENTICATION_PROTOCOL	
E_INVALID_PRIVACY_PROTOCOL	
E_NO_AUTHENTICATION_PASSWORD	
E_NO_PRIVACY_PASSWORD	
E_INVALID_AUTHENTICATION_PASSWORD	
E_INVALID_PRIVACY_PASSWORD	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDACCESS	
EASUPUSEROPERATIONFAILED	
E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY	
E_TWO_DIFFERENT_PROFILES	

security-login-modify-iter

[top]

Modify the attributes of a user account or a group of user account objects.

Input Name	Range	Type	Description
attributes		security-login-account-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue modifying the next matching security login account even when modification of a previous security login account fails. If set to false, the API will return on the first

			failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login account even when the modification of a previous matching security login account fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		security-login-account-info	If modifying a specific security login account, this input element must specify all keys. If modifying security login account objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were not modified due to some error. If set to false, the list of security login account objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login account objects (just keys) that were successfully updated. If set to false, the list of security login account objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-modify-iter-info[] optional	Information about security login account objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login account objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of security login account objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login account objects that matched the query and were successfully updated.
success-list		security-login-modify-iter-info[] optional	The security login account objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-modify-password

[top]

Changes the password of a specified user.

Input Name	Range	Type	Description
is-password-hashed		boolean optional	This optionally specifies whether password entered by user is pre-hashed.

new-password		string	New password of the user.
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: • sha512 • sha256
user-name		string optional	The user whose password should be changed. This is mandatory when a user with admin role is modifying the password of another user.

Errno	Description
EINTERNALERROR	
EINVALIDPASSWORD	
EONTAPI_EPERM	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-config-get

[top]

Get the attributes of a role configuration.

Input Name	Range	Type	Description
desired-attributes		security-login-role-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
attributes		security-login-role-config-info	The attributes of the security login roleconfig.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EROLENOTFOUND	
EROLECONFIGNOTFOUND	

security-login-role-config-get-iter

[top]

Iterate over a list of role objects.

Input Name	Range	Type	Description
desired-attributes		security-login-role-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-login-role-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login roleconfig object. All security login roleconfig objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-login-role-config-info[] optional	The list of attributes of security login roleconfig objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login roleconfig objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-login-role-config-modify

[top]

Modify the specified attributes of role configuration object. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
account-expiry-time		string optional	This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration.
account-inactive-limit		string optional	This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity.
change-password-duration-in-days	**[0..1000]**	integer optional	This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately.
delay-after-failed-login	**[1..60]**	integer optional	This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs.
last-passwords-disallowed-count	**[1..25]**	integer optional	This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6.
lockout-duration	**[0..2^32-1]**	integer optional	This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0.
max-failed-login-attempts	**[0..2^32-1]**	integer optional	This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0.
min-passwd-specialchar	**[0..64]**	integer optional	This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0.
min-password-size	**[3..64]**	integer optional	This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters.
min-username-		integer	The minimum length of the user name. Possible values range from 3 to 16

size	**[3..16]**	optional	characters. The default setting is 3 characters.
passwd-expiry-warn-time		string optional	If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1.
passwd-min-digits	**[0..64]**	integer optional	This optionally specifies the minimum number of digits required in the password. The default setting is 0.
passwd-min-lowercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0.
passwd-min-uppercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0.
password-expiration-duration		string optional	This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire).
require-initial-password-update		boolean optional	This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false.
require-password-alpha-numeric		boolean optional	If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character.
require-username-alpha-numeric		boolean optional	If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EROLENOTFOUND	
EROLECONFIGNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-config-modify-iter

[top]

Modify the attributes of role configuration or a group of role configuration objects.

Input Name	Range	Type	Description
attributes		security-login-role-config-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple security login roleconfig objects match a given query. If set to true, the API will continue modifying the next matching security login roleconfig even when modification of a previous security login roleconfig fails. If set to false, the API will return on the first failure. Default: false
max-failure-	**[1..2^32-**	integer	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login roleconfig even when the modification of a

count	**1]**	optional	previous matching security login roleconfig fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		security-login-role-config-info	If modifying a specific security login roleconfig, this input element must specify all keys. If modifying security login roleconfig objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login roleconfig objects (just keys) that were not modified due to some error. If set to false, the list of security login roleconfig objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login roleconfig objects (just keys) that were successfully updated. If set to false, the list of security login roleconfig objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-role-config-modify-iter-info[] optional	Information about security login roleconfig objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login roleconfig objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of security login roleconfig objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login roleconfig objects that matched the query and were successfully updated.
success-list		security-login-role-config-modify-iter-info[] optional	The security login roleconfig objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-role-create

[top]

Create a new user role.

Input Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'.

command-directory-name		string	The command or command directory to which the role has an access.
return-record		boolean optional	If set to true, returns the security login role on successful creation. Default: false
role-name		string	Name of the role.
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
result		security-login-role-info optional	The security login role created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDROLENAME	
EINVALIDCMDDIRNAME	
EINVALIDACCESS	
EINVALIDQUERY	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-delete

[top]

Delete an existing user role object.

Input Name	Range	Type	Description
command-directory-name		string	The command or command directory to which the role has an access.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EROLENOTFOUND	
EVSERVERNOTFOUND	
ECMDDIRNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-delete-iter

[top]

Delete an existing user role or a group of user role objects.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue deleting the next matching security login role even when the deletion of a previous security login role fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login role even when the deletion of a previous matching security login role fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security login role objects to delete in this call. Default: 20
query		security-login-role-info	If deleting a specific security login role, this input element must specify all keys. If deleting multiple security login role objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were not deleted due to some error. If set to false, the list of security login role objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were successfully deleted. If set to false, the list of security login role objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-role-delete-iter-info[] optional	Information about security login role objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login role objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of security login role objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login role objects that matched the query and were successfully deleted.
success-list		security-login-role-delete-iter-info[] optional	The security login role objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-role-get

[top]

Get the attributes of a user role.

Input Name	Range	Type	Description
command-directory-name		string	The command or command directory to which the role has an access.
desired-attributes		security-login-role-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
role-name		string	Name of the role.
vserver		string	Name of the Vserver.

Output Name	Range	Type	Description
attributes		security-login-role-info	The attributes of the security login role.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EROLENOTFOUND	
EVSERVERNOTFOUND	
ECMDDIRNOTFOUND	

security-login-role-get-iter

[top]

Iterate over a list of user role objects.

Input Name	Range	Type	Description
desired-attributes		security-login-role-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		security-login-role-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role object. All security login role objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-login-role-info[] optional	The list of attributes of security login role objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login role objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description

Errno	Description
EINTERNALERROR	

security-login-role-modify

[top]

Modify the attributes of user role object. Omitted (optional) fields will not be changed.

Input Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'.
command-directory-name		string	The command or command directory to which the role has an access.
role-name		string	Name of the role.
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDROLENAME	
EINVALIDCMDDIRNAME	
EINVALIDACCESS	
EINVALIDACCESSLEVEL	
EINVALIDQUERY	
EINVALIDROLEQUERY	
E_PREDEFINED_ROLES_UNMUTABLE	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-login-role-modify-iter

[top]

Modify the attributes of user role or a group of user role objects.

Input Name	Range	Type	Description
attributes		security-login-role-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue modifying the next matching security login role even when modification of a previous security login role fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login role even when the modification of a previous matching security login role fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed

			modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		security-login-role-info	If modifying a specific security login role, this input element must specify all keys. If modifying security login role objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were not modified due to some error. If set to false, the list of security login role objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security login role objects (just keys) that were successfully updated. If set to false, the list of security login role objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-login-role-modify-iter-info[] optional	Information about security login role objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security login role objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of security login role objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security login role objects that matched the query and were successfully updated.
success-list		security-login-role-modify-iter-info[] optional	The security login role objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

security-login-unlock

[top]

Unlock a user account that uses password as authentication method. Returns an error if the user account does not use password authentication.

Input Name	Range	Type	Description
user-name		string	Name of the user account to be unlocked.
vserver		string	Name of the Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	

EUSERNOTFOUND	
EUSERUNLOCKFAILED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	
EINVALIDACCESS	

security-login-whoami

[top]

Show the current user and role of this session.

Input Name	Range	Type	Description
desired-attributes		security-login-account-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		security-login-account-info	The attributes of the security login whoami.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-get

[top]

Get the security protocol configuration

Input Name	Range	Type	Description
application		string	Name of the application.Possible values: • 'rsh' • 'telnet' .
desired-attributes		security-protocol-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		security-protocol-info	The attributes of the security protocol.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-modify

[top]

Modify the security protocol configuration

Input Name	Range	Type	Description
application		string	Name of the application.Possible values: • 'rsh' • 'telnet' .
enabled		boolean	To enable or disable application.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-ssh-get

[top]

Get the security protocol ssh configuration

Input Name	Range	Type	Description
desired-attributes		security-protocol-ssh-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		security-protocol-ssh-info	The attributes of the security protocol ssh.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-protocol-ssh-modify

[top]

Modifies the security protocol ssh configuration.

Input Name	Range	Type	Description
connections-per-second	**[1..70]**	integer	Connections Per Second
max-instances	**[1..128]**	integer	Maximum Number of Instances
per-source-limit	**[1..64]**	integer	Per-Source Limit

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-saml-sp-create-async

[top]

Configure SAML service provider information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

Input Name	Range	Type	Description
cert-ca		string optional	Specify the service prvider's certificate issuing CA.
cert-common-name		common-name optional	Specify the service providers certificate's common name.
cert-serial		string optional	Specify the service providers certificate's serial number.
idp-uri		uri	Specify the URI containing the metadata of the identity provider.
sp-host		remote-inet-address optional	Specify the SAML SP service provider host address.
verify-metadata-server		boolean optional	Specify whether to verify the IdP metadata server identity.

Output Name	Range	Type	Description
result		saml-sp-config-info optional	The security created (keys or the entire object if requested)
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this security.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EINTERNALERROR	

security-saml-sp-destroy

[top]

Delete SAML service provider configuration information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-saml-sp-get

[top]

Get SAML service provider configuration information

Input Name	Range	Type	Description
desired-attributes		saml-sp-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		saml-sp-config-info	The attributes of the security.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-saml-sp-modify

[top]

Modify SAML service provider configuration information. Note that this may restart the web server. Any HTTP/S connections that are active may be disrupted. Prior to disabling SAML service provider authentication, to prevent losing access, ensure that there are user accounts configured for non-SAML authentication.

Input Name	Range	Type	Description
is-enabled		boolean optional	Enable or disable the configured SAML SP for authentication.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-ssh-add

[top]

Adds the input algorithms, ciphers and mac algorithms to the SSH configuration. Existing algorithms, ciphers and mac algorithms remain in the configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is not currently enabled in the configuration.

Input Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers to Add
key-exchange-algorithms		kex-algorithms[] optional	List of SSH Key Exchange Algorithms to Add
mac-algorithms		mac-algorithms[] optional	List of SSH MAC Algorithms to Add
vserver		vserver-name-data-admin optional	Name of Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-ssh-get-iter

[top]

Display SSH configuration options

Input Name	Range	Type	Description
desired-attributes		security-ssh-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		security-ssh-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the ssh object. All ssh objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		security-ssh-info[] optional	The list of attributes of ssh objects.
next-tag		string optional	Tag for the next call. Not present when there are no more ssh objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-ssh-remove

[top]

Removes the input algorithms, ciphers and MAC algorithms from the SSH configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is already currently enabled in the configuration.

Input Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers to Remove
key-exchange-algorithms		kex-algorithms[] optional	List of SSH Key Exchange Algorithms to Remove
mac-algorithms		mac-algorithms[] optional	List of SSH MAC algorithms to Remove
vserver		vserver-name-data-admin optional	Name of Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-ssh-reset

[top]

Enable and replace SSH configuration options to this new setting

Input Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers enabled. Possible values: • "aes256_ctr" , • "aes192_ctr" , • "aes128_ctr" , • "aes256_cbc" , • "aes192_cbc" , • "aes128_cbc" , • "3des_cbc" , • "aes128_gcm" , • "aes256_gcm"
key-exchange-algorithms		kex-algorithms[] optional	List of SSH key exchange algorithms enabled. Possible values: • "diffie_hellman_group_exchange_sha256" , • "diffie_hellman_group_exchange_sha1" , • "diffie_hellman_group14_sha1" , • "diffie_hellman_group1_sha1" , • "ecdh_sha2_nistp256" , • "ecdh_sha2_nistp384" , • "ecdh_sha2_nistp521" , • "curve25519_sha256"
mac-algorithms		mac-algorithms[] optional	List of SSH MAC algorithms enabled. Possible values: • "hmac_md5" , • "hmac_md5_96" , • "hmac_md5_etm" , • "hmac_md5_96_etm" , • "hmac_ripemd160" , • "hmac_ripemd160_etm" , • "hmac_sha1" , • "hmac_sha1_etm" , • "hmac_sha1_96" , • "hmac_sha1_96_etm" , • "hmac_sha2_256" , • "hmac_sha2_256_etm" , • "hmac_sha2_512" , • "hmac_sha2_512_etm" , • "umac_64" , • "umac_128" , • "umac_64_etm" , • "umac_128_etm"
max-authentication-retry-count	**[2..6]**	integer optional	Maximum Authentication Retry Count.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **ciphers**

[top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,
- "umac_128_etm"

[none]

Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **saml-sp-config-info**

[top]

SAML SP configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cert-ca		string optional	Specify the service prvider's certificate issuing CA. Attributes: optional-for-create, non-modifiable
cert-common-name		common-name optional	Specify the service providers certificate's common name. Attributes: optional-for-create, non-modifiable
cert-serial		string optional	Specify the service providers certificate's serial number. Attributes: optional-for-create, non-modifiable
idp-uri		uri optional	Specify the URI containing the metadata of the identity provider. Attributes: required-for-create, non-modifiable
is-enabled		boolean optional	Enable or disable the configured SAML SP for authentication. Attributes: non-creatable, modifiable
sp-host		remote-inet-address optional	Specify the SAML SP service provider host address. Attributes: optional-for-create, non-modifiable
verify-metadata-server		boolean optional	Specify whether to verify the IdP metadata server identity. Attributes: optional-for-create, non-modifiable

Element definition: **security-config-info**

[top]

Provide Security Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-security-config-ready		boolean optional	Cluster Security Configuration Ready. Deprecated as of ONTAP 9.9 and may be removed in a future release. Attributes: non-creatable, non-modifiable
interface		fips-interfaces optional	Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable Possible values: • "ssl"
is-fips-enabled		boolean optional	Data ONTAP FIPS Mode. Attributes: optional-for-create, modifiable
supported-cipher-suites		string[] optional	Data ONTAP Supported Cipher Suites. Attributes: optional-for-create, modifiable
supported-ciphers		string optional	Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: optional-for-create, modifiable
supported-protocols		string[] optional	Data ONTAP Supported Protocols. Attributes: optional-for-create, modifiable

Element definition: **security-config-ocsp**

[top]

OCSP Support Status for Applications When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Application Name Possible values: • 'autosupport' - AutoSupport, • 'audit_log' - Audit-Logging, • 'fabricpool' - FabricPool, • 'ems' - EMS, • 'kmip' - KMIP, • 'ldap_ad' - LDAP-AD, • 'ldap_nis_namemap' - LDAP-NIS-NameMap, • 'ssh' - SSH, • 'all' - All Applications Attributes: key, non-creatable, non-modifiable
is-ocsp-enabled		boolean optional	Is OCSP-based Certificate Status Check Enabled? Attributes: non-creatable, non-modifiable

Element definition: **security-login-account-info**

[top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' . Attributes: key, required-for-create, non-modifiable
			Authentication method for the application. Possible values: 'community',

authentication-method		string optional	'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. Attributes: key, required-for-create, non-modifiable
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable
is-ldap-fastbind		boolean optional	Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-create, modifiable
is-locked		boolean optional	Account Locked Attributes: non-creatable, non-modifiable
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: • sha512 • sha256 • md5 Attributes: non-creatable, non-modifiable
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable
role-name		string optional	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'. Attributes: optional-for-create, modifiable
user-name		string optional	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login account object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-key		security-login-account-info	The keys for the security login account object to which the deletion applies.

Element definition: **security-login-expire-password-iter-info**

[top]

Information about the operation that was attempted/performed against security object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-key		security-login-password-user-info	The keys for the security object to which the operation applies.

Element definition: **security-login-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login account object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
security-key		security-login-account-info	The keys for the security login account object to which the modify operation applies.

Element definition: **security-login-password-user-info**

[top]

Information of users with password authentication method When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
password-hash-algorithm		string	Password Hash Function Attributes: non-creatable, non-modifiable

		optional	
user-name		string optional	Username Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-expiry-time		string optional	This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable
account-inactive-limit		string optional	This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. Attributes: non-creatable, modifiable
change-password-duration-in-days	**[0..1000]**	integer optional	This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable
delay-after-failed-login	**[1..60]**	integer optional	This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable
last-passwords-disallowed-count	**[1..25]**	integer optional	This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable
lockout-duration	**[0..2^32-1]**	integer optional	This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable
max-failed-login-attempts	**[0..2^32-1]**	integer optional	This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable
min-passwd-specialchar	**[0..64]**	integer optional	This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable
min-password-size	**[3..64]**	integer optional	This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable
min-username-size	**[3..16]**	integer optional	The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable
passwd-expiry-warn-time		string optional	If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable
passwd-min-digits	**[0..64]**	integer optional	This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-		integer	This optionally specifies the minimum number of lowercase alphabetic

lowercase-chars	**[0..64]**	optional	characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-uppercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
password-expiration-duration		string optional	This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable
require-initial-password-update		boolean optional	This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable
require-password-alpha-numeric		boolean optional	If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
require-username-alpha-numeric		boolean optional	If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
role-name		string optional	Name of the role. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login roleconfig object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
security-key		security-login-role-config-info	The keys for the security login roleconfig object to which the modify operation applies.

Element definition: **security-login-role-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login role object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-key		security-login-role-info	The keys for the security login role object to which the deletion applies.

Element definition: **security-login-role-info**

[top]

User role information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable
command-directory-name		string optional	The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable
role-name		string optional	Name of the role. Attributes: key, required-for-create, non-modifiable
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login role object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
security-key		security-login-role-info	The keys for the security login role object to which the modify operation applies.

Element definition: **security-protocol-info**

[top]

Security protocol fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Name of the application.Possible values: • 'rsh' • 'telnet'

			. Attributes: key, non-creatable, non-modifiable
enabled		boolean optional	To enable or disable application. Attributes: non-creatable, modifiable

Element definition: **security-protocol-ssh-info**

[top]

Security protocol ssh fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connections-per-second		integer optional	Connections Per Second Attributes: non-creatable, modifiable
max-instances		integer optional	Maximum Number of Instances Attributes: non-creatable, modifiable
per-source-limit		integer optional	Per-Source Limit Attributes: non-creatable, modifiable

Element definition: **security-ssh-info**

[top]

Provide SSH configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ciphers		ciphers[] optional	List of SSH Ciphers enabled. Attributes: optional-for-create, modifiable Possible values: • "aes256_ctr" , • "aes192_ctr" , • "aes128_ctr" , • "aes256_cbc" , • "aes192_cbc" , • "aes128_cbc" , • "3des_cbc" , • "aes128_gcm" , • "aes256_gcm"
		kex-	List of SSH key exchange algorithms enabled. Attributes: optional-for-create, modifiable Possible values: • "diffie_hellman_group_exchange_sha256" , • "diffie_hellman_group_exchange_sha1" ,

key-exchange-algorithms		algorithms[] optional	"diffie_hellman_group14_sha1" , • "diffie_hellman_group1_sha1" , • "ecdh_sha2_nistp256" , • "ecdh_sha2_nistp384" , • "ecdh_sha2_nistp521" , • "curve25519_sha256"
mac-algorithms		mac-algorithms[] optional	List of SSH MAC algorithms enabled. Attributes: optional-for-create, modifiable Possible values: • "hmac_md5" , • "hmac_md5_96" , • "hmac_md5_etm" , • "hmac_md5_96_etm" , • "hmac_ripemd160" , • "hmac_ripemd160_etm" , • "hmac_sha1" , • "hmac_sha1_etm" , • "hmac_sha1_96" , • "hmac_sha1_96_etm" , • "hmac_sha2_256" , • "hmac_sha2_256_etm" , • "hmac_sha2_512" , • "hmac_sha2_512_etm" , • "umac_64" , • "umac_128" , • "umac_64_etm" , • "umac_128_etm"
max-authentication-retry-count	**[2..6]**	integer optional	Maximum Authentication Retry Count. Attributes: optional-for-create, modifiable
vserver-name		vserver-name-data-admin optional	Name of Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snmpv3-login-info**

[top]

SNMPv3 user login information for 'usm' authentication method

Name	Range	Type	Description
authentication-password		string optional	Password for the authentication protocol. This should be minimum 8 characters long. This is required for 'md5', 'sha' and 'sha2-256' authentication protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable
authentication-protocol		string optional	Authentication protocol for the snmp user. Possible values: 'none', 'md5', 'sha' and 'sha2-256'. When cluster FIPS mode is on, 'sha' and 'sha2-256' are the only possible and valid values. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS mode is on, the default value is 'sha'. Attributes: optional-for-create, non-modifiable
engine-id		hex-string optional	Authoritative entity's EngineID for the SNMPv3 user. This is required for creating SNMPv3 users (users for SNMPv3 INFORMs) with 'usm' authentication method only. This should be specified as a hexadecimal string. Engine ID with first bit set to 1 in first octet should have a minimum of 5 or maximum of 32 octets. Engine Id with first bit set to 0 in the first octet should be 12 octets in length. Engine Id cannot have all zeros in its address For e.g. 800001460300000000000. Attributes: optional-for-create, non-modifiable
privacy-password		string optional	Password for the privacy protocol. This should be minimum 8 characters long. This is required for 'des' and 'aes128' privacy protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable
			Privacy protocol for the snmp user. Possible values: 'none', 'des' and 'aes128'.

privacy-protocol		string optional	When cluster FIPS mode is on, 'aes128' is the only possible and valid value. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS mode is on, the default value is 'aes128'. Attributes: optional-for-create, non-modifiable

Element definition: **true-false** [top]

True/False

[none]

Element definition: **uri** [top]

[none]

Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

Element definition: **ciphers** [top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

Element definition: **common-name** [top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,

- "umac_128_etm"

[none]

Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **security-login-account-info** [top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application		string optional	Name of the application. Possible values: • 'amqp' • 'console' • 'http' • 'ontapi' • 'rsh' • 'snmp' • 'service-processor' • 'ssh' • 'telnet' . Attributes: key, required-for-create, non-modifiable
authentication-method		string optional	Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are: • 'password' for 'amqp'' application. • 'password' for 'console' application. • 'password', 'domain', 'nsswitch', 'cert' for 'http' application. • 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application. • 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users). • 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users). • 'password' for 'service-processor' application. • 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. Attributes: key, required-for-create, non-modifiable
comment		string optional	Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable
is-ldap-		boolean	Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-

fastbind		optional	create, modifiable
is-locked		boolean optional	Account Locked Attributes: non-creatable, non-modifiable
is-ns-switch-group		boolean optional	Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable
password-hash-algorithm		string optional	This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: • sha512 • sha256 • md5 Attributes: non-creatable, non-modifiable
remote-switch-ipaddress		string optional	This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable
role-name		string optional	The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable
second-authentication-method		string optional	second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'. • 'none'. • 'password'. • 'publickey'. • 'nsswitch'. Attributes: optional-for-create, modifiable
user-name		string optional	Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-expiry-time		string optional	This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable
account-inactive-limit		string optional	This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no

			account will expire based on inactivity. Attributes: non-creatable, modifiable
change-password-duration-in-days	**[0..1000]**	integer optional	This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable
delay-after-failed-login	**[1..60]**	integer optional	This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable
last-passwords-disallowed-count	**[1..25]**	integer optional	This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable
lockout-duration	**[0..2^32-1]**	integer optional	This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable
max-failed-login-attempts	**[0..2^32-1]**	integer optional	This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable
min-passwd-specialchar	**[0..64]**	integer optional	This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable
min-password-size	**[3..64]**	integer optional	This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable
min-username-size	**[3..16]**	integer optional	The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable
passwd-expiry-warn-time		string optional	If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable
passwd-min-digits	**[0..64]**	integer optional	This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-lowercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
passwd-min-uppercase-chars	**[0..64]**	integer optional	This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable
password-expiration-duration		string optional	This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable
require-initial-password-update		boolean optional	This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable
require-password-alpha-numeric		boolean optional	If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
require-username-alpha-numeric		boolean optional	If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable
role-name		string optional	Name of the role. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

[top]

Element definition: **security-login-role-info**

User role information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
access-level		string optional	Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable
command-directory-name		string optional	The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable
role-name		string optional	Name of the role. Attributes: key, required-for-create, non-modifiable
role-query		string optional	A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

APIs in Category: **security-certificate**

security-certificate-ca-issued-get
security-certificate-ca-issued-get-iter
security-certificate-create
security-certificate-delete
security-certificate-delete-iter
security-certificate-file-get-iter
security-certificate-generate-csr
security-certificate-get
security-certificate-get-iter
security-certificate-install
security-certificate-remove-precluster-cert
security-certificate-rename
security-certificate-revoke
security-certificate-sign
security-certificate-truststore-clear
security-certificate-truststore-load

This set of ZAPIs allows to manage certificates in a cluster environment including: creation, deletion, installation, generation of CSR, signing of certificate and revocation.

security-certificate-ca-issued-get

[top]

Get the attributes of the security-certificate-ca-issued.

Input Name	Range	Type	Description
ca-serial-number		string	Serial number of CA certificate.
certificate-authority		string	Certificate Authority
desired-attributes		certificate-ca-issued-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
serial-number		string	Serial number of certificate.

Output Name	Range	Type	Description
attributes		certificate-ca-issued-	The attributes of the security-certificate-ca-issued.

		info	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-ca-issued-get-iter

[top]

Iterate over a list of security-certificate-ca-issued objects.

Input Name	Range	Type	Description
desired-attributes		certificate-ca-issued-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		certificate-ca-issued-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-ca-issued object. All security-certificate-ca-issued objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		certificate-ca-issued-info[] optional	The list of attributes of security-certificate-ca-issued objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-certificate-ca-issued objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-certificate-create

[top]

If a certificate is created with the existing Common Name then a new certificate is generated with a different serial number

Input Name	Range	Type	Description
cert-name		string optional	Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system.
common-			Represents the domain name in FQDN form that specifies its exact

name		string	location in the tree hierarchy of the Domain Name System (DNS).
country		string optional	Name of the country. Default value is 'US'.
email-address		string optional	Email address of administrator. Default value is empty string.
expire-days		integer optional	Number of days until expiration. Default value is '365'.
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Possible values: • 'sha1' , • 'sha256' , • 'md5' , • 'sha224' , • 'sha384' , • 'sha512
is-system-internal-certificate		boolean optional	Is System Internal Certificate. Default value is 'false'.
locality		string optional	Name of the locality Default value is empty string.
organization		string optional	Name of the organization. Default value is empty string.
organization-unit		string optional	Name of the unit. Example: IT, Finance. Default value is empty string.
size		string optional	Size of requested certificate in bits. Default value is '2048'. Possible values: • '512' - 512 bits private key, • '1024' - 1024 bits private key, • '1536' - 1536 bits private key, • '2048' - 2048 bits private key, • '3072' - 3072 bits private key
state		string optional	Name of the state. Default value is empty string.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication
vserver		string optional	Name of vserver. Default value is Cserver.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-delete

[top]

Delete an existing security-certificate object.

Input Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver.
certificate-authority		string	Certificate Authority
common-name		string	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
is-system-internal-certificate		boolean optional	Is System Internal Certificate
serial-number		string optional	Serial number of certificate.
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication
vserver		string optional	Name of vserver. Default value is Cserver.

Errno	Description
E_CERTIFICATE_CANNOT_DELETE_DEFAULT	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-delete-iter

[top]

Delete an existing security-certificate or a group of security-certificate objects.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security-certificate objects match a given query. If set to true, the API will continue deleting the next matching security-certificate even when the deletion of a previous security-certificate fails. If set to false, the API will return on the first failure. Default: false

max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security-certificate even when the deletion of a previous matching security-certificate fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security-certificate objects to delete in this call. Default: 20
query		certificate-info	If deleting a specific security-certificate, this input element must specify all keys. If deleting multiple security-certificate objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security-certificate objects (just keys) that were not deleted due to some error. If set to false, the list of security-certificate objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security-certificate objects (just keys) that were successfully deleted. If set to false, the list of security-certificate objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-certificate-delete-iter-info[] optional	Information about security-certificate objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security-certificate objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of security-certificate objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security-certificate objects that matched the query and were successfully deleted.
success-list		security-certificate-delete-iter-info[] optional	The security-certificate objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
E_CERTIFICATE_CANNOT_DELETE_DEFAULT	

security-certificate-file-get-iter

[top]

Iterate over a list of security-certificate-file objects.

Input Name	Range	Type	Description
desired-attributes		certificate-file-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		certificate-file-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-file object. All security-certificate-file objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		certificate-file-info[] optional	The list of attributes of security-certificate-file objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-certificate-file objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-certificate-generate-csr

[top]

Generate a digital certificate signing request(CSR)

Input Name	Range	Type	Description
common-name		string	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
country		string optional	Name of the country.
email-address		string optional	Email address of administrator.
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Possible values: • 'sha1' , • 'sha256' , • 'md5' , • 'sha224' , • 'sha384' , • 'sha512'
locality		string optional	Name of the locality.
organization		string	Name of the organization.

		optional	
organization-unit		string optional	Name of the unit. Example: IT, Finance.
size		string optional	Size of requested certificate in bits. Default value is '2048'. Deprecated as of ONTAP 9.8 and may be removed in future releases. Possible values: • '512' - 512 bits private key, • '1024' - 1024 bits private key, • '1536' - 1536 bits private key, • '2048' - 2048 bits private key, • '3072' - 3072 bits private key
state		string optional	Name of the state.

Output Name	Range	Type	Description
csr		string	Certificate Signing Request
private-key		string	Private Key

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-get

[top]

Get the attributes of the security-certificate.

Input Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver.
certificate-authority		string	Certificate Authority
common-name		string	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
desired-attributes		certificate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
serial-number		string optional	Serial number of certificate.
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on the client,

			'server_ca' - CA who signed user certificates on the server, • 'server_chain' - Intermediate certificate for server authentication

Output Name	Range	Type	Description
attributes		certificate-info	The attributes of the security-certificate.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-get-iter

[top]

Iterate over a list of security-certificate objects.

Input Name	Range	Type	Description
desired-attributes		certificate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		certificate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate object. All security-certificate objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		certificate-info[] optional	The list of attributes of security-certificate objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-certificate objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-certificate-install

[top]

Install a digital certificate

Input Name	Range	Type	Description
cert-name		string optional	Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system.
certificate		string	Public Key Certificate
common-name		common-name optional	FQDN or custom common name. This field is available from Data ONTAP 8.3.3 onwards and is only applicable if the certificate has an empty subject field and a valid subject alternate name extension. This field must have a valid common name to install such a certificate.
intermediate-cert-list		pubcertificate[] optional	Chain of Intermediate Certificates
is-system-internal-certificate		boolean optional	Netapp internal certificate. Default value is 'false'.
private-key		string optional	Private Key
subtype		subtype optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release.
type		string	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server
vserver		string optional	Name of vserver. Default value is Cserver.

Output Name	Range	Type	Description
ca		string optional	Installed certificate's CA for reference.
serial		string optional	Installed certificate's serial number for reference.

Errno	Description
E_CERTIFICATE_SUBTYPE_ONLY_SUPPORT_FOR_ADMIN_VSERVER	
E_CERTIFICATE_CERT_TYPE_WITH_SUBTYPE_NOT_APPLICABLE	
E_CERTIFICATE_CERT_EMPTY	
E_CERTIFICATE_PRIVATE_KEY_EMPTY	
E_CERTIFICATE_INTERMEDIATE_EMPTY	
E_CERTIFICATE_MULTIPLE_INTERMEDIATE_EMPTY	
E_CERTIFICATE_INTERMEDIATE_UNSUPPORTED_TYPE	
E_CERTIFICATE_DUPLICATE_SERVER_CHAIN_ENTRY	
E_CERTIFICATE_EMPTY_VSERVER_DIR_PATH	
E_CERTIFICATE_INSTALLATION_NEEDS_COMMON_NAME	
E_CERTIFICATE_FAILED_TO_INSTALL_CERTIFICATE	
E_CERTIFICATE_CANNOT_ACCEPT_PRIVATE_KEY	
E_CERTIFICATE_FAILED_TO_EXTRACT_CERTIFICATE_INFORMATION	
E_CERTIFICATE_CANNOT_EXTRACT_ISSUER	
E_CERTIFICATE_INVALID_COMMON_NAME	

E_CERTIFICATE_FAILED_TO_EXTRACT_COMMON_NAME	
E_LIBSSLMGNT_UI_EVP_PKEY_READ_KEY	
E_LIBSSLMGNT_UI_X509_READ_BIO	
E_LIBSSLMGNT_UI_X509_MISMATCH_KEY	
E_LIBSSLMGNT_UI_X509_TOO_EARLY	
E_LIBSSLMGNT_UI_X509_EXPIRED	
E_LIBSSLMGNT_UI_X509_VERIFY_CHAIN	
E_LIBSSLMGNT_UI_X509_FIPS_UNSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-remove-precluster-cert

[top]

Removes the auto-generated precluster certificate

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-rename

[top]

Rename a digital certificate.

Input Name	Range	Type	Description
cert-name		string	The current name for the certificate.
new-name		string	The desired name for the certificate.
vserver		vserver-name-data-admin	Name of vserver.

Errno	Description
EINTERNALERROR	
EVSERVERNTFOUND	
EOBJECTNOTFOUND	
EONTAPI_EEXIST	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-revoke

[top]

Revoke a digital certificate

Input Name	Range	Type	Description

ca-serial-number		string	Serial number of CA certificate.
certificate-authority		string	Certificate Authority
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).
serial-number		string	Serial number of certificate.
vserver		string optional	Name of vserver. Default value is Cserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-certificate-sign

[top]

Sign a certificate using self-signed root CA

Input Name	Range	Type	Description
ca-serial-number		string	Serial number of CA certificate.
certificate-authority		string	Certificate Authority to Sign
csr		string	Certificate signing request.
destination		uri optional	URI to send file to. Example: ftp://abc.com.
expire-days		integer optional	Number of days until expiration. Default value is '365'.
filepassword		string optional	Password for PKCS12 file
format		string optional	Certificate Format. Default value is 'PEM'. Possible values: • 'pkcs12' , • 'pem'
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Possible values: • 'sha1' , • 'sha256' , • 'md5' , • 'sha224' , • 'sha384' , • 'sha512'
password		string	Destination URI password

		optional	
private-key		string optional	Private Key
username		string optional	Destination URI username
vserver		string optional	Name of vserver. Default value is Cserver.

Output Name	Range	Type	Description
signed-cert		string	Signed certificate.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-truststore-clear

[top]

Clear the default root certificates from truststore

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-certificate-truststore-load

[top]

Load the default root certificates to truststore

Input Name	Range	Type	Description
ontap-version		ontap-version optional	Certificates from specific ONTAP version
password		string optional	Password to access the URL
path		string optional	File to load PEM certificates from
uri		string optional	URL to download PEM certificates from
username		string optional	Username to access the URL

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **certificate-ca-issued-info**

[top]

Information about issued digital certificates by Self-Signed Root CA When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ca-serial-number		string optional	Serial number of CA certificate. Attributes: key, required-for-create, non-modifiable
certificate-authority		string optional	Certificate Authority Attributes: key, required-for-create, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: required-for-create, non-modifiable
country		string optional	Name of the country. Attributes: required-for-create, non-modifiable
email-addr		string optional	Email address of administrator. Attributes: required-for-create, non-modifiable
expiration-date	**[0..2^31-1]**	integer optional	Certificate expiration date. Attributes: non-creatable, non-modifiable
locality		string optional	Name of the locality. Attributes: required-for-create, non-modifiable
organization		string optional	Name of the organization. Attributes: required-for-create, non-modifiable
organization-unit		string optional	Name of the unit. Example: IT, Finance. Attributes: required-for-create, non-modifiable
revocation-date	**[0..2^31-1]**	integer optional	Certificate revocation date. Attributes: optional-for-create, modifiable
serial-number		string optional	Serial number of certificate. Attributes: key, required-for-create, non-modifiable
state		string optional	Name of the state. Attributes: required-for-create, non-modifiable
status		string optional	Status of certificate. Attributes: required-for-create, non-modifiable Possible values: • "active" , • "revoked"
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

Element definition: **certificate-file-info**

[top]

Information about location of certificate files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Certificate Authority. Attributes: key, non-creatable, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, non-creatable, non-modifiable
exists		boolean optional	Certificate File Exists Attributes: non-creatable, non-modifiable
file		string optional	Type of file. Attributes: key, non-creatable, non-modifiable Possible values: • "certificate" - Public Key, • "key" - Private Key, • "crl" - Certificate Revocation List
node-name		string optional	The node on which the file exists. Attributes: key, non-creatable, non-modifiable
path		string optional	Path of the file in the file system. Attributes: non-creatable, non-modifiable
protocol		string optional	Protocol Attributes: non-creatable, non-modifiable Possible values: • "ssl"
serial-number		string optional	Serial number of certificate. Attributes: key, non-creatable, non-modifiable
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, non-creatable, non-modifiable
type		string optional	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

Element definition: **certificate-info**

[top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable
certificate-authority		string optional	Certificate Authority Attributes: key, required-for-create, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable
country		string optional	Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable
email-address		string optional	Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable
expiration-date	**[0..2^63-1]**	integer optional	Certificate Expiration Date Attributes: non-creatable, non-modifiable
expire-days	**[1..3652]**	integer optional	Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable
is-default		boolean optional	Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable
is-root		boolean optional	Is Root CA Certificate? Attributes: non-creatable, non-modifiable
is-system-generated		boolean optional	Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable
locality		string optional	Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable
organization		string optional	Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable
organization-unit		string optional	Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable
protocol		string optional	Protocol Attributes: required-for-create, non-modifiable Possible values: • "ssl"
public-certificate		string optional	Public Key Certificate Attributes: non-creatable, non-modifiable
self-signed		boolean optional	Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of certificate. Attributes: key, required-for-create, non-modifiable
size		string optional	Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable
start-date	**[0..2^31-1]**	integer optional	Certificate Start Date Attributes: non-creatable, non-modifiable

state		string optional	Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable
type		string optional	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

Element definition: **ontap-version**

[top]

Possible values:

- "9_2" ,
- "9_7" ,
- "9_8" ,
- "9_9_1" ,
- "9_10_0" ,
- "9_10_1" ,
- "9_11_0" ,
- "9_12_0" ,
- "9_13_0" ,
- "9_13_1"

[none]

Element definition: **pubcertificate**

[top]

[none]

Element definition: **security-certificate-delete-iter-info** [top]

Information about the deletion operation that was attempted/performed against security-certificate object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-certificate-key		certificate-info	The keys for the security-certificate object to which the deletion applies.

Element definition: **subtype** [top]

Certificate subtype

[none]

Element definition: **uri** [top]

[none]

Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

Element definition: **certificate-info** [top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cert-name		string optional	System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable
certificate-authority		string optional	Certificate Authority Attributes: key, required-for-create, non-modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable
country		string optional	Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable
email-address		string optional	Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable
expiration-date	**[0..2^63-1]**	integer optional	Certificate Expiration Date Attributes: non-creatable, non-modifiable
expire-days	**[1..3652]**	integer optional	Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable
hash-function		string optional	Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable
is-default		boolean optional	Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable
is-root		boolean optional	Is Root CA Certificate? Attributes: non-creatable, non-modifiable
is-system-generated		boolean optional	Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable
locality		string optional	Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable
organization		string optional	Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable
organization-unit		string optional	Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable
protocol		string optional	Protocol Attributes: required-for-create, non-modifiable Possible values: • "ssl"
public-certificate		string optional	Public Key Certificate Attributes: non-creatable, non-modifiable
self-signed		boolean optional	Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of certificate. Attributes: key, required-for-create, non-modifiable
size		string optional	Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable
start-date	**[0..2^31-1]**	integer optional	Certificate Start Date Attributes: non-creatable, non-modifiable
state		string optional	Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable
subtype		string optional	Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable

type		string optional	Type of certificate. Possible values: • 'server' - Server certificate, • 'client' - Certificate for Data ONTAP as an SSL client, • 'root_ca' - Self-Signed Root CA, • 'client_ca' - CA who signed user certificates on client, • 'server_ca' - CA who signed user certificates on server, • 'server_chain' - Intermediate certificate for server authentication Attributes: key, required-for-create, non-modifiable
vserver		string optional	Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable

APIs in Category: **security-key-manager**

This set of APIs manages the key manager and its attributes.

external-restore-get-iter
external-status-get-iter
key-query-get-iter
security-key-manager-config-get
security-key-manager-config-modify
security-key-manager-delete-keys
security-key-manager-delete-kmip-config
security-key-manager-external-add-servers
security-key-manager-external-disable
security-key-manager-external-enable
security-key-manager-external-get
security-key-manager-external-get-iter
security-key-manager-external-modify
security-key-manager-external-modify-server
security-key-manager-external-remove-servers
security-key-manager-key-database-create-key
security-key-manager-key-database-delete-key
security-key-manager-key-migrate
security-key-manager-key-store-get-iter
security-key-manager-onboard-backup-get
security-key-manager-onboard-disable
security-key-manager-onboard-enable
security-key-manager-onboard-sync
security-key-manager-onboard-update-passphrase
security-key-manager-setup
security-key-manager-update-passphrase
security-key-manager-volume-encryption-

supported

external-restore-get-iter

[top]

Restore the key IDs from all the key management servers known to this cluster.

Input Name	Range	Type	Description
desired-attributes		key-manager-external-restore optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		key-manager-external-restore optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		key-manager-external-restore[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

external-status-get-iter

[top]

Lists the connectivity status for all key management servers known to the cluster.

Input Name	Range	Type	Description
desired-attributes		external-key-manager-status optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
	[1..2^32-	integer	

max-records	**1]**	optional	The maximum number of records to return in this call. Default: 20
query		external-key-manager-status optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		external-key-manager-status[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

key-query-get-iter

[top]

Lists the keys in the key managers.

Input Name	Range	Type	Description
desired-attributes		keymanager-key-query-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		keymanager-key-query-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		keymanager-key-query-info[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
	[0..2^32-		

num-records	**1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-key-manager-config-get

[top]

Display Key Management Configuration

Input Name	Range	Type	Description
desired-attributes		keymanager-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		keymanager-config-info	The attributes of the security-key-manager.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-config-modify

[top]

Modify Key Management Configuration

Input Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode
cc-mode-enabled		boolean optional	CC-Mode Enabled.
health-monitor-polling-interval	**[15..30]**	integer optional	Health Monitor Polling Period (in minutes)
okm-on-usb-enabled		boolean optional	OKM-on-USB Enabled.
onboard-passphrase		string optional	Current onboard cluster-wide passphrase.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-delete-keys

[top]

Deletes the key hierarchy for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Input Name	Range	Type	Description
passphrase		string optional	The Onboard Key Manager cluster-wide passphrase.

Errno	Description
E_KEY_MANAGER_NOT_ENABLED	
E_KEY_MANAGER_NOT_SETUP	
E_PASSPHRASE_LEN_EXCEEDS_RANGE	
E_FAILED_PASSPHRASE_VERIFY	
E_INCORRECT_PASSPHRASE	
E_FOUND_ENCRYPTED_VOLUMES	
E_UNSUPPORTED_ONB_ECV	
EINTERNALERROR	

security-key-manager-delete-kmip-config

[top]

Deletes the KMIP configuration. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Errno	Description
E_UNSUPPORTED_ONB_ECV	
E_KMIP_NOT_CONFIGURED	
E_NSE_AK_IS_SET	
E_FOUND_ENCRYPTED_VOLUMES	
EINTERNALERROR	
E_EXT_KMIP_SERVER_CONF	
E_CHECKING_KMIP_SERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-add-servers

[top]

Add additional external key management servers

Input Name	Range	Type	Description
key-servers		string[]	The key management servers to add.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Errno	Description
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-disable

[top]

Disable external key management

Input Name	Range	Type	Description
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-enable

[top]

Enable external key management

Input Name	Range	Type	Description
client-cert		string	The name of the client certificate.
key-servers		string[]	The set of key management servers.
keyservers-are-clustered		boolean optional	Are the key servers clustered?
policy		string optional	The key manager policy.
server-ca-certs		string[]	The names of the server CA certificates.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
MT_EK_MGMT

security-key-manager-external-get

[top]

Get information about a registered key management server.

Input Name	Range	Type	Description
desired-attributes		external-key-manager-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
key-server		string optional	The key server name with port.

Output Name	Range	Type	Description
attributes		external-key-manager-info	The attributes of the security-key-manager-external.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-external-get-iter

[top]

Lists registered key management servers known to the cluster.

Input Name	Range	Type	Description
desired-attributes		external-key-manager-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		external-key-manager-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-external object. All security-key-manager-external objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		external-key-manager-info[] optional	The list of attributes of security-key-manager-external objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager-external objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-key-manager-external-modify

[top]

Modify external key management

Input Name	Range	Type	Description
client-cert		string optional	The name of the new client certificate.
keyservers-are-clustered		boolean optional	Are the key servers clustered?
server-ca-certs		string[] optional	The names of the new server CA certificates.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-modify-server

[top]

Modify information about an external key management server

Input Name	Range	Type	Description
key-server		string	The key server to modify.
password		string optional	The new key server authentication password.
secondary-key-servers		remote-inet-address[] optional	The secondary key servers.
timeout		integer optional	The new key server I/O timeout.
username		string optional	The new key server authentication username.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-external-remove-servers

[top]

Remove external key management servers

Input Name	Range	Type	Description
key-servers		string[]	The key management servers to remove.
vserver		vserver-name	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

security-key-manager-key-database-create-key

[top]

Create a new authentication key on the key manager

Input Name	Range	Type	Description
key-tag		string optional	The key tag.
passphrase		string optional	The key AK passphrase.

Output Name	Range	Type	Description
error-status		keymanager-status optional	The action status.
key-id		hex-string optional	The key ID.
restore-failure-list		node-name[] optional	Nodes on which the newly-created key was not successfully restored.
restore-success-list		node-name[] optional	Nodes on which the newly-created key was successfully restored.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-key-database-delete-key

[top]

Delete an existing authentication key on the key manager

Input Name	Range	Type	Description
key-id		hex-string	The ID of the key to delete.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-key-migrate

[top]

Migrate keys from one vserver to another

Input Name	Range	Type	Description
from-vserver		vserver-name	The Vserver name to migrate from.
to-vserver		vserver-name	The Vserver name to migrate to.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-key-store-get-iter

[top]

Lists all configured key managers.

Input Name	Range	Type	Description
desired-attributes		keymanager-key-store-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		keymanager-key-store-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		keymanager-key-store-info[] optional	The list of attributes of security-key-manager objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-key-manager objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-key-manager-onboard-backup-get

[top]

Get backup of key hierarchy

Input Name	Range	Type	Description
vserver		string optional	The admin Vserver.

Output Name	Range	Type	Description
key-backup		string	The salt and wrapped keys as a hex dump.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-disable

[top]

Disable the Onboard Key Manager

Input Name	Range	Type	Description
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-enable

[top]

Enable the Onboard Key Manager

Input Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode
cc-mode-enabled		boolean optional	Common Criteria mode enabled?
okm-on-usb-enabled		boolean optional	OKM-on-USB enabled?
onboard-passphrase		string optional	The Onboard Key Manager Cluster-Wide Passphrase
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-sync

[top]

Sync the Onboard Key Manager Keys

Input Name	Range	Type	Description
passphrase		string	Onboard Cluster-wide Passphrase
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-onboard-update-passphrase

[top]

Update the Onboard Key Manager Passphrase

Input Name	Range	Type	Description
existing-passphrase		string	The existing the Onboard Key Manager passphrase.
new-passphrase		string	The new the Onboard Key Manager passphrase.
vserver		vserver-name optional	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-setup

[top]

Configure key manager connectivity. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Input Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in CC-Mode
cc-mode-enabled		boolean optional	Enable Common Criteria Mode?
key-manager-boot-address		ip-address	Key Manager Boot Node IPv4 Address

		optional	
key-manager-boot-addressV6		ip-address optional	Key Manager Boot Node IPv6 Address
key-manager-boot-gateway		ip-address optional	IPv4 Gateway for the Key Server
key-manager-boot-gatewayV6		ip-address optional	IPv6 Gateway for the Key Server
key-manager-boot-interface		lif-bindable optional	Physical Interface Used to Contact Key Server
key-manager-boot-netmask		ip-address optional	Netmask for the Key Server
key-manager-boot-port		integer optional	TCP Port for the Key Server
key-manager-boot-prefixlen		integer optional	IPv6 Prefix Length
node		filer-id optional	Node Name
onboard-passphrase		string optional	Onboard Key Manager Cluster-wide Passphrase
sync-metrocluster-config		boolean optional	Sync MetroCluster Configuration from Peer
use-external-usb		boolean optional	Use external USB for Onboard Key Storage

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-update-passphrase

[top]

Update passphrase for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

Input Name	Range	Type	Description
new-passphrase		string	New onboard cluster-wide passphrase
onboard-passphrase		string	Current onboard cluster-wide passphrase

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-key-manager-volume-encryption-supported

[top]

Checks if Volume encryption is supported on this node

Input Name	Range	Type	Description
node		string	Node Name
vserver		string optional	Vserver Name

Output Name	Range	Type	Description
vol-encryption-supported		boolean	Volume encryption supported

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **external-key-manager-info**

[top]

Returns External Key Management Server Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
client-cert		string optional	The name of the client certificate. Attributes: non-creatable, non-modifiable
info		string optional	Any Key Server Registered or Not Attributes: non-creatable, non-modifiable
key-server		string optional	The key server name with port. Attributes: key, non-creatable, non-modifiable
keyservers-are-clustered		boolean optional	Are the key servers clustered? Attributes: non-creatable, non-modifiable
secondary-key-servers		string[] optional	The secondary key servers. Attributes: non-creatable, non-modifiable
server-ca-certs		string[] optional	The names of the server CA certificates. Attributes: non-creatable, non-modifiable
timeout	**[-1..60]**	integer optional	The key server I/O timeout. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **external-key-manager-status**

[top]

Returns External Key Management Server Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-server		string optional	Primary Key Server Attributes: key, non-creatable, non-modifiable
key-server-status		keymanager-server-status optional	Key Server Status Attributes: non-creatable, non-modifiable Possible values: • "available" - Key server available, • "not_responding" - Key server is not responding, • "unknown" - Key server status is unknown
node		node-name optional	Node Name Attributes: key, non-creatable, non-modifiable
secondary-key-servers		string[] optional	Secondary Key Servers Attributes: non-creatable, non-modifiable
status-details		string optional	Key Server Status Details Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **key-manager-external-restore**

[top]

Information about the key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-id		hex-string optional	The ID of the restored key. Attributes: key, non-creatable, non-modifiable
key-server		string optional	The key server from which the key was restored. Attributes: key, non-creatable, non-modifiable
key-tag		string optional	The tag of the restored key. Attributes: key, non-creatable, non-modifiable
node-name		node-name optional	The node name. Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **keymanager-config-info**

[top]

Provide Key Management Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
are-unencrypted-metadata-volumes-allowed-in-cc-mode		boolean optional	Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode Attributes: non-creatable, modifiable
cc-mode-enabled		boolean optional	CC-Mode Enabled. Attributes: non-creatable, modifiable
health-monitor-polling-interval	**[15..30]**	integer optional	Health Monitor Polling Period (in minutes) Attributes: non-creatable, modifiable
okm-on-usb-enabled		boolean optional	OKM-on-USB Enabled. Attributes: non-creatable, modifiable

onboard-passphrase		string optional	Current onboard cluster-wide passphrase. Attributes: non-creatable, modifiable

Element definition: **keymanager-key-query-info**

[top]

Returns Information About the Keys in the Key Manager When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-id		hex-string optional	The key ID. Attributes: key, non-creatable, non-modifiable
key-server		string optional	The key server. Attributes: key, non-creatable, non-modifiable
key-store		keystore optional	The key manager type. Attributes: non-creatable, non-modifiable Possible values: • "onboard" - Onboard Key Database, • "external" - External KMIP Server Key Database
key-tag		string optional	The key tag. Attributes: non-creatable, non-modifiable
key-type		keyusagetype optional	The key type. Attributes: non-creatable, non-modifiable Possible values: • "nse_ak" - Authentication Key for NSE drive, • "aek" - Aggregate Encryption Key, • "vek" - Volume Encryption Key, • "nek" - NVRAM Encryption Key, • "svm_kek" - SVM Key Encryption Key for wrapping VEK
key-user		vserver-name optional	The key user. Attributes: non-creatable, non-modifiable
node		node-name optional	The node name. Attributes: key, non-creatable, non-modifiable
restored		boolean optional	Is Key/Key ID Pair in Node's Key Table? Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **keymanager-key-store-info**

[top]

Returns Information About Configured Key Managers When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
key-store		keystore optional	The key store. Attributes: non-creatable, non-modifiable Possible values: • "onboard" - Onboard Key Database, • "external" - External KMIP Server Key Database
vserver		vserver-name optional	The Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **keymanager-status**

[top]

Key Manager Command Error Status Possible values:

- "ok" ,
- "error_unknown" ,
- "error_invalid_op" ,
- "error_internal" ,
- "error_operation_timeout" ,
- "error_client_cert_file_missing" ,
- "error_server_cert_missing" ,
- "error_server_connection" ,
- "error_server_duplicate" ,
- "error_server_not_found" ,
- "error_server_not_supported" ,
- "error_server_not_registered" ,
- "error_server_max" ,
- "error_server_delete_failed" ,
- "error_key_restore_completed" ,
- "error_key_restore_init" ,
- "error_key_restore_in_progress" ,
- "error_key_restore_failed" ,
- "error_key_gen_crypto_failed" ,
- "error_key_gen_hexstr_failed" ,
- "error_key_backup_failed" ,
- "error_key_duplicate_found" ,
- "error_key_del_crypto_failed" ,
- "error_kmip_bootarg_unset" ,
- "error_wrapping_key_not_found" ,
- "error_key_unwrapping_failed" ,
- "error_key_manager_not_setup"

[none]

Element definition: **lif-bindable** [top]

|

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **hex-string** [top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

Element definition: **keymanager-server-status** [top]

available|not-responding|unknown Possible values:

- "available" - Key server available,
- "not_responding" - Key server is not responding,
- "unknown" - Key server status is unknown

[none]

Element definition: **keystore**

[top]

Key Store Possible values:

- "onboard" - Onboard Key Database,
- "external" - External KMIP Server Key Database

[none]

Element definition: **keyusagetype**

[top]

Key Usage Type Possible values:

- "nse_ak" - Authentication Key for NSE drive,
- "aek" - Aggregate Encryption Key,
- "vek" - Volume Encryption Key,
- "nek" - NVRAM Encryption Key,
- "svm_kek" - SVM Key Encryption Key for wrapping VEK

[none]

APIs in Category: **security-session**

security-session-application-stats-get-iter
security-session-kill-cli-iter
security-session-limit-application-create
security-session-limit-application-delete
security-session-limit-application-get-iter
security-session-limit-application-modify
security-session-limit-create
security-session-limit-delete
security-session-limit-get-iter
security-session-limit-location-create
security-session-limit-location-delete
security-session-limit-location-get-iter
security-session-limit-location-modify
security-session-limit-modify
security-session-limit-request-create
security-session-limit-request-delete
security-session-limit-request-get-iter
security-session-limit-request-modify
security-session-limit-user-create
security-session-limit-user-delete
security-session-limit-user-get-iter
security-session-limit-user-modify
security-session-limit-vserver-create
security-session-limit-vserver-delete
security-session-limit-vserver-get-iter
security-session-limit-vserver-modify

This set of APIs allows viewing session statistics and configuring session limits.

security-session-location-stats-get-iter
security-session-request-stats-get-iter
security-session-running-stats-get-iter
security-session-user-stats-get-iter
security-session-vserver-stats-get-iter

security-session-application-stats-get-iter

[top]

Returns session application statistics.

Input Name	Range	Type	Description
desired-attributes		session-application-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-application-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-application-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-kill-cli-iter

[top]

Kill a CLI session

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple security-session objects match a given query. If set to true, the API will continue with the next matching security-session even when the operation fails for the security-session. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-session even when the operation on a previous matching security-session fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of security-session objects to be operated in this call. Default: 20
query		session-running-stats-info	If operating on a specific security-session, this input element must specify all keys. If operating on security-session objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of security-session objects (just keys) that were not operated on due to some error. If set to false, the list of security-session objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of security-session objects (just keys) that were successfully operated on. If set to false, the list of security-session objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		security-session-kill-cli-iter-info[] optional	Information about security-session objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching security-session objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of security-session objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of security-session objects that matched the query and were successfully processed.
success-list		security-session-kill-cli-iter-info[] optional	The security-session objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

security-session-limit-application-create

[top]

Creates a per-application session limit.

Input Name	Range	Type	Description
application		string	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application.
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and application.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-application-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-application-delete

[top]

Deletes a per-application session limit.

Input Name	Range	Type	Description
application		string	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application.
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-application-get-iter

[top]

Returns per-application session limits.

Input Name	Range	Type	Description
		session-	Specify the attributes that should be returned. If not present, all

desired-attributes		application-limits-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-application-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-application-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-application-modify

[top]

Modifies a per-application session limit.

Input Name	Range	Type	Description
application		string	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application.
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and application.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-create

[top]

Creates a session default limit.

Input Name	Range	Type	Description

category		session-limit-type	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver
interface		session-if-type	The interface (cli, ontapi, or rest) for this default limit.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and category.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-default-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-delete

[top]

Deletes a session default limit.

Input Name	Range	Type	Description
category		session-limit-type	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver
interface		session-if-type	The interface (cli, ontapi, or rest) for this default limit.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-get-iter

[top]

Returns session default limits.

Input Name	Range	Type	Description
desired-attributes		session-default-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-default-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-default-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-location-create

[top]

Creates a per-location session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace.
location		string	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and location.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-location-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-location-delete

[top]

Deletes a per-location session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace.
location		string	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-location-get-iter

[top]

Returns per-location session limits.

Input Name	Range	Type	Description
desired-attributes		session-location-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		session-location-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

			obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-location-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-location-modify

[top]

Modifies a per-location session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace.
location		string	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and location.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-modify

[top]

Modifies a session default limit.

Input Name	Range	Type	Description
category		session-limit-type	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request

			type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver
interface		session-if-type	The interface (cli, ontapi, or rest) for this default limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and category.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-request-create

[top]

Creates a per-request session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer	The maximum number of concurrent sessions allowed for this interface and request type.
request		string	The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false

Output Name	Range	Type	Description
result		session-request-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-request-delete

[top]

Deletes a per-request session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
request		string	The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type.

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-request-get-iter

[top]

Returns per-request session limits.

Input Name	Range	Type	Description
desired-attributes		session-request-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		session-request-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-request-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-request-modify

[top]

Modifies a per-request session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	[0..250]	integer optional	The maximum number of concurrent sessions allowed for this interface and request type.
request		string	The name of the request for this limit. A request name of '-default-'

			specifies the default request limit for any request type.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-user-create

[top]

Creates a per-user session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	[0..250]	integer	The maximum number of concurrent sessions allowed for this interface, Vserver, and user.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false
username		string	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Output Name	Range	Type	Description
result		session-user-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-user-delete

[top]

Deletes a per-user session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
username		string	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-user-get-iter

[top]

Returns per-user session limits.

Input Name	Range	Type	Description
desired-attributes		session-user-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-user-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-user-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-user-modify

[top]

Modifies a per-user session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface, Vserver, and user.
username		string	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-vserver-create

[top]

Creates a per-vserver session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	[0..250]	integer	The maximum number of concurrent sessions allowed for this interface and Vserver.
return-record		boolean optional	If set to true, returns the security-session on successful creation. Default: false
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Output Name	Range	Type	Description
result		session-vserver-limits-info optional	The security-session created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

security-session-limit-vserver-delete

[top]

Deletes a per-vserver session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-limit-vserver-get-iter

[top]

Returns per-vserver session limits.

Input Name	Range	Type	Description
desired-attributes		session-vserver-limits-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-vserver-limits-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-vserver-limits-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-limit-vserver-modify

[top]

Modifies a per-vserver session limit.

Input Name	Range	Type	Description
interface		session-if-type	The interface (cli, ontapi, or rest) for this application limit.
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and Vserver.
vserver		vserverid	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-session-location-stats-get-iter

[top]

Returns session location statistics.

Input Name	Range	Type	Description
desired-attributes		session-location-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-location-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-location-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-request-stats-get-iter

[top]

Returns session request statistics.

Input Name	Range	Type	Description
desired-attributes		session-request-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-request-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for the

tag		string optional	first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-request-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-running-stats-get-iter

[top]

Returns session running statistics.

Input Name	Range	Type	Description
desired-attributes		session-running-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-running-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-running-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-user-stats-get-iter

[top]

Returns session user statistics.

Input Name	Range	Type	Description
desired-attributes		session-user-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		session-user-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-user-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-session-vserver-stats-get-iter

[top]

Returns session vserver statistics.

Input Name	Range	Type	Description
desired-attributes		session-vserver-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
		session-	

query		vserver-stats-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		session-vserver-stats-info[] optional	The list of attributes of security-session objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security-session objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **security-session-kill-cli-iter-info**

[top]

Information about the operation that was attempted/performed against security-session object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
security-session-key		session-running-stats-info	The keys for the security-session object to which the operation applies.

Element definition: **session-application-limits-info**

[top]

Session Application Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

application		string optional	The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. Attributes: key, required-for-create, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and application. Attributes: required-for-create, modifiable

Element definition: **session-application-stats-info**

[top]

Session Application Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
application		string optional	The name of the calling application. Attributes: key, required-for-create, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable

max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable

Element definition: **session-default-limits-info**

[top]

Session Default Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
category		session-limit-type optional	The session type for this default limit. The following categories are defined: • 'application': Identifies the default limit for any single application • 'location': Identifies the default limit for any single location • 'request': Identifies the default limit for any single request type • 'user': Identifies the default limit for any single user • 'vserver': Identifies the default limit for any single Vserver Attributes: key, required-for-create, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this default limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and category. Attributes: required-for-create, modifiable

Element definition: **session-if-type**

[top]

Session Interface Type

[none]

Element definition: **session-limit-type**

[top]

Session Limit Type

[none]

Element definition: **session-location-limits-info**

[top]

Session Location Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. Attributes: key, optional-for-create, non-modifiable
location		string optional	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and location. Attributes: required-for-create, modifiable

Element definition: **session-location-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
ipspace		string optional	The IPspace from which the client location is seen. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
location		string optional	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, required-for-create, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^64-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable

Element definition: **session-request-limits-info**

[top]

Session Request Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and request type. Attributes: required-for-create, modifiable
request		string optional	The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. Attributes: key, required-for-create, non-modifiable

Element definition: **session-request-stats-info**

[top]

Session Request Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of requests that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, non-modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, non-modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request completed. This is only present when there are no active requests. Attributes: non-creatable, non-modifiable

interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request started. This is only present when there are active requests. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active requests. Attributes: required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, non-modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, non-modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
request		string optional	The name of the request that was issued. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable

Element definition: **session-running-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request started. Attributes: non-creatable, non-modifiable
application		string optional	The name of the calling application. Attributes: key, non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last request completed. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that is processing the session. Attributes: key, non-creatable, non-modifiable

ipspace		string optional	The IPspace from which the client location is seen. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took on this session. Attributes: non-creatable, non-modifiable
location		string optional	A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, non-creatable, non-modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took on this session. Attributes: non-creatable, non-modifiable
node-name		node-name optional	The name of the node that is processing the session. Attributes: key, non-creatable, non-modifiable
request		string optional	The request input that is currently being handled by the session. Attributes: non-creatable, non-modifiable
session-id	**[0..2^32-1]**	integer optional	A monotonically increasing number for each node that helps make each session uniquely identifiable. Attributes: key, non-creatable, non-modifiable
start-time	**[0..2^31-1]**	integer optional	The start time of the current session. Attributes: key, non-creatable, non-modifiable
state		session-state optional	The state (pending, active, or idle) of the session. The state is 'pending' if it hit a session limit and the session is waiting for another session to end. The state is 'idle' for CLI sessions that are waiting at the command prompt. The state is 'active' if the session is actively working on a request. Attributes: non-creatable, non-modifiable Possible values: • "pending" , • "active" , • "idle"
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received so far on this session. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^32-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable
username		string optional	The name of the authenticated user that originated this request. Attributes: key, non-creatable, non-modifiable
vserver		vserverid optional	The name of the Vserver that originated this request. Attributes: key, non-creatable, non-modifiable

Element definition: **session-user-limits-info**

[top]

Session User Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface, Vserver, and user. Attributes: required-for-create, modifiable
username		string optional	The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. Attributes: key, required-for-create, non-modifiable
vserver		vserverid optional	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable

Element definition: **session-user-stats-info**

[top]

Session User Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-	**[0..2^32-**	integer	The maximum number of concurrently active sessions. Attributes:

active	**1]**	optional	required-for-create, modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable
username		string optional	The name of the authenticated user that originated this request. Attributes: key, required-for-create, non-modifiable
vserver		vserverid optional	The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable

Element definition: **session-vserver-limits-info**

[top]

Session Vserver Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
interface		session-if-type optional	The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable
max-active-limit	**[0..250]**	integer optional	The maximum number of concurrent sessions allowed for this interface and Vserver. Attributes: required-for-create, modifiable
vserver		vserverid optional	The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable

Element definition: **session-vserver-stats-info**

[top]

Session Vserver Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active	**[0..2^32-1]**	integer optional	The number of sessions that are currently active. Attributes: non-creatable, non-modifiable
average-time	**[0..2^64-1]**	integer optional	The average time spent on a request. Attributes: non-creatable, non-modifiable
blocked-percent	**[0..100]**	integer optional	The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable
blocked-requests	**[0..2^64-1]**	integer optional	The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable
failed-percent	**[0..100]**	integer optional	The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable
failed-requests	**[0..2^64-1]**	integer optional	The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable
idle-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable
interface		session-if-type optional	The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable
last-active-seconds	**[0..2^64-1]**	integer optional	The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable
last-time	**[0..2^32-1]**	integer optional	The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable
max-active	**[0..2^32-1]**	integer optional	The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable
max-active-limit	**[0..250]**	integer optional	The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable
max-time	**[0..2^32-1]**	integer optional	The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable
node-name		node-name optional	The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable
success-percent	**[0..100]**	integer optional	The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable
total-requests	**[0..2^64-1]**	integer optional	The total number of requests received. Attributes: non-creatable, non-modifiable
total-seconds	**[0..2^64-1]**	integer optional	The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable
vserver		vserverid optional	The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable

Element definition: **vserverid** [top]

Vserver Id

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **session-if-type** [top]

Session Interface Type

[none]

Element definition: **session-state** [top]

pending|active|idle Possible values:

- "pending" ,
- "active" ,
- "idle"

[none]

APIs in Category: **security-ssl**

security-ssl-get
security-ssl-get-iter
security-ssl-modify

This is an auto generated category.

security-ssl-get

[top]

Get the attributes of SSL security

Input Name	Range	Type	Description
desired-attributes		vserver-ssl-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		vserver-ssl-info	The attributes of the SSL security.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

security-ssl-get-iter

[top]

Get the attributes of SSL security

Input Name	Range	Type	Description
desired-attributes		vserver-ssl-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-ssl-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the SSL security object. All SSL security objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		vserver-ssl-info[] optional	The list of attributes of SSL security objects.
next-tag		string optional	Tag for the next call. Not present when there are no more SSL security objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

security-ssl-modify

[top]

Modify SSL authentication for a Vserver. Only field(s) that are provided will be modified.

Input Name	Range	Type	Description
certificate-authority		string optional	Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true.
certificate-serial-number		string optional	Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true, if you do not specify one it will use the serial number of the default certificate.
client-authentication-enabled		boolean optional	Informs if SSL Client Authentication is enabled.
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true.
ocsp-default-responder		string optional	This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified.
ocsp-enabled		boolean optional	This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration.
ocsp-max-response-age		string optional	This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future.
ocsp-max-response-time-skew		time-interval optional	This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields).
ocsp-override-responder		boolean optional	This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder.
ocsp-responder-timeout		time-interval optional	This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds.
			This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always

ocsp-use-request-nonce		boolean optional	used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack.
server-authentication-enabled		boolean optional	Informs if SSL Server Authentication is enabled.
vserver		string optional	Name of vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **vserver-ssl-info**

[top]

Information about SSL authentication for a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
certificate-authority		string optional	Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable
certificate-serial-number		string optional	Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable
client-authentication-enabled		boolean optional	Informs if SSL Client Authentication is enabled. Attributes: non-creatable, modifiable
common-name		string optional	Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true. Attributes: non-creatable, modifiable

ocsp-default-responder		string optional	This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified. Attributes: non-creatable, modifiable
ocsp-enabled		boolean optional	This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration. Attributes: non-creatable, modifiable
ocsp-max-response-age		string optional	This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future. Attributes: non-creatable, modifiable
ocsp-max-response-time-skew		time-interval optional	This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields). Attributes: non-creatable, modifiable
ocsp-override-responder		boolean optional	This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder. Attributes: non-creatable, modifiable
ocsp-responder-timeout		time-interval optional	This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds. Attributes: non-creatable, modifiable
ocsp-use-request-nonce		boolean optional	This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack. Attributes: non-creatable, modifiable
server-authentication-enabled		boolean optional	Informs if SSL Server Authentication is enabled. Attributes: non-creatable, modifiable
vserver		string optional	Name of vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

APIs in Category: **service-processor**

service-processor-api-service-disable-installed-certificates
service-processor-api-service-enable-installed-certificates
service-processor-api-service-get
service-processor-api-service-modify
service-processor-api-service-renew-internal-certificates
service-processor-asup-config-get
service-processor-asup-config-set
service-processor-asup-invoke
service-processor-auto-configuration-disable
service-processor-auto-configuration-enable
service-processor-auto-configuration-get
service-processor-get
service-processor-get-iter
service-processor-image-get
service-processor-image-modify
service-processor-image-update
service-processor-image-update-progress-get
service-processor-log-allocation-get
service-processor-log-allocation-get-iter
service-processor-network-get
service-processor-network-get-iter
service-processor-network-modify
service-processor-network-modify-iter
service-processor-reboot
service-processor-ssh-add-allowed-addresses
service-processor-ssh-get
service-processor-ssh-

These APIs enable applications to get information about the Service Processor of any node in the cluster or modifying its configuration. A Service Processor (SP) device provides remote management capabilities including console redirection, logging and power control. It also extends AutoSupport by sending additional system event alerts. The AutoSupport settings are used for sending these alerts via email over the SP LAN interface.

remove-allowed-addresses	

service-processor-api-service-disable-installed-certificates

[top]

Disable user-installed certificates for the service processor API service - use auto-generated certificates

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-enable-installed-certificates

[top]

Enable user-installed certificates for the service processor API service

Input Name	Range	Type	Description
client-cert		string	The name of the client certificate.
rootca-cert		string	The names of the root CA certificates.
server-cert		string	The name of the server certificate.
vserver		vserver-name-data-admin	The Vserver name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-get

[top]

Get service processor API service configuration

Input Name	Range	Type	Description
desired-attributes		service-processor-api-service optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		service-processor-api-service	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-modify

[top]

Modify service processor API service configuration

Input Name	Range	Type	Description
is-enabled		boolean optional	Is SP API Service Enabled
limit-access		boolean optional	Only Cluster Members Can Access the Service
port	[49152..65535]	integer optional	SP API Service Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-api-service-renew-internal-certificates

[top]

Generate SSL and SSH certificates used for secure communication with the service processor API service

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-asup-config-get

[top]

Returns Service Processor AutoSupport Configuration Information.

Input Name	Range	Type	Description
desired-attributes		service-processor-asup-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		service-processor-asup-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-asup-config-set

[top]

Setup Service Processor AutoSupport Configuration Information.

Input Name	Range	Type	Description
is-enabled		boolean optional	SP AutoSupport Is-enabled state

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-asup-invoke

[top]

Invoke AutoSupport from Specific Service-Processor

Input Name	Range	Type	Description
node		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-auto-configuration-disable

[top]

Disable Service Processor Auto-Configuration

Input Name	Range	Type	Description
address-family		sp-ip-address-type	IPv4/IPv6 Address Family

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-auto-configuration-enable

[top]

Enable Service Processor Auto-Configuration

Input Name	Range	Type	Description
address-family		sp-ip-address-type	IPv4/IPv6 Address Family
subnet-name		string	Subnet Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-auto-configuration-get

[top]

Get Service Processor auto-configuration subnet name.

Input Name	Range	Type	Description
desired-attributes		sp-subnet-name-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		sp-subnet-name-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-get

[top]

Get basic information about the device

Input Name	Range	Type	Description
desired-attributes		service-processor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-get-iter

[top]

Get basic information about device of each node in the cluster

Input Name	Range	Type	Description
desired-attributes		service-processor-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		service-processor-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		service-processor-info[] optional	The list of attributes of service-processor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more service-processor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

service-processor-image-get

[top]

Get information about installed firmware images

Input Name	Range	Type	Description
desired-attributes		service-processor-image optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
			Is this image primary or backup firmware for the device Possible values:

firmware-image		sp-fw-type	• "primary" - Firmware which the device boots into by default, • "backup" - Firmware which the device boots into if primary fails
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-image	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-image-modify

[top]

Enable or disable automatic firmware update

Input Name	Range	Type	Description
is-autoupdate-enabled		boolean optional	Is firmware autoupdate enabled on the device
node		node-name	Node on which the device is located

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-image-update

[top]

Install new firmware image

Input Name	Range	Type	Description
clear-logs		boolean optional	Clear logs on the device after update. Default value is true
install-baseline-image		boolean optional	Install the version packaged with ONTAP if this parameter is set to true. Otherwise, -package must be used to specify the package to install
node		node-name	Node on which the device is located
package		string optional	Name of the package file containing the firmware to be installed. Not required when -baseline is true
update-type		sp-fw-update-type optional	Type of firmware update to be performed

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-image-update-progress-get

[top]

Get firmware update progress

Input Name	Range	Type	Description
desired-attributes		service-processor-image-update-progress-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-image-update-progress-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-log-allocation-get

[top]

Get the Service Processor log allocation map.

Input Name	Range	Type	Description
desired-attributes		service-processor-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The host node name where the log files are located
remote-node		string	The node name the log files are collected from

Output Name	Range	Type	Description
attributes		service-processor-log-info	The attributes of the service-processor.

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-log-allocation-get-iter

[top]

Get the Service Processor log allocation map of each node in the cluster.

Input Name	Range	Type	Description
desired-attributes		service-processor-log-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		service-processor-log-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		service-processor-log-info[] optional	The list of attributes of service-processor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more service-processor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

service-processor-network-get

[top]

Get the network configuration

Input Name	Range	Type	Description
address-type		sp-ip-address-type	Network configuration that is being addressed i.e. IPv4 or IPv6 Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
desired-		service-processor-network-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
node		node-name	Node on which the device is located

Output Name	Range	Type	Description
attributes		service-processor-network-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-network-get-iter

[top]

Get the network configuration of device of each node in the cluster

Input Name	Range	Type	Description
desired-attributes		service-processor-network-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		service-processor-network-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		service-processor-network-info[] optional	The list of attributes of service-processor objects.
next-tag		string optional	Tag for the next call. Not present when there are no more service-processor objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

service-processor-network-modify

[top]

Modify the network configuration

Input Name	Range	Type	Description
address-type		sp-ip-address-type	Network configuration that is being addressed i.e. IPv4 or IPv6 Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
dhcp		sp-dhcp-status optional	DHCP status for the configuration Possible values: • "v4" - DHCP for IPv4, • "none" - DHCP not enabled, • "v6" - DHCP for IPv6
gateway-ip-address		ip-address optional	IP address of the network gateway
ip-address		ip-address optional	IP address currently held by the device
is-enabled		boolean optional	Is this address configuration enabled
netmask		ip-address optional	Netmask for the device
node		node-name	Node on which the device is located
prefix-length	**[0..64]**	integer optional	Prefix length of subnet mask

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-network-modify-iter

[top]

Modify the network configuration of device of each node in the cluster

Input Name	Range	Type	Description
attributes		service-processor-network-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple service-processor objects match a given query. If set to true, the API will continue modifying the next matching service-processor even when modification of a previous service-processor fails. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set,

max-failure-count	**[1..2^32-1]**	integer optional	the API will continue modifying the next matching service-processor even when the modification of a previous matching service-processor fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		service-processor-network-info	If modifying a specific service-processor, this input element must specify all keys. If modifying service-processor objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of service-processor objects (just keys) that were not modified due to some error. If set to false, the list of service-processor objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of service-processor objects (just keys) that were successfully updated. If set to false, the list of service-processor objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		service-processor-network-modify-iter-info[] optional	Information about service-processor objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching service-processor objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of service-processor objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of service-processor objects that matched the query and were successfully updated.
success-list		service-processor-network-modify-iter-info[] optional	The service-processor objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

service-processor-reboot

[top]

Reboot the Service Processor

Input Name	Range	Type	Description
firmware-image		sp-fw-type optional	Image to boot upon reboot. Default is primary
node		node-name	Node on which the device is located

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-ssh-add-allowed-addresses

[top]

Add IP addresses that are allowed to access the Service Processor

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[]	Public IP Addresses

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-ssh-get

[top]

Return SSH security information about the Service Processor.

Input Name	Range	Type	Description
desired-attributes		service-processor-ssh-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		service-processor-ssh-info	The attributes of the service-processor.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

service-processor-ssh-remove-allowed-addresses

[top]

Remove IP addresses that are allowed to access the Service Processor

Input Name	Range	Type	Description
allowed-addresses		ip-and-mask[]	Public IP Addresses

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-processor-api-service**

[top]

Service Processor API service type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is SP API Service Enabled Attributes: non-creatable, modifiable
limit-access		boolean optional	Only Cluster Members Can Access the Service Attributes: non-creatable, modifiable

port	**[49152..65535]**	integer optional	SP API Service Port Attributes: non-creatable, modifiable

Element definition: **service-processor-asup-info**

[top]

Service Processor AutoSupport Configuration Applies within the Cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	SP AutoSupport Is-enabled state Attributes: non-creatable, modifiable

Element definition: **service-processor-image**

[top]

Service processor firmware information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
firmware-image		sp-fw-type optional	Is this image primary or backup firmware for the device Attributes: key, non-creatable, non-modifiable Possible values: • "primary" - Firmware which the device boots into by default, • "backup" - Firmware which the device boots into if primary fails
is-autoupdate-enabled		boolean optional	Is firmware autoupdate enabled on the device Attributes: non-creatable, non-modifiable
is-current		boolean optional	Is device currently booted from this image Attributes: non-creatable, non-modifiable
last-update-status		sp-pass-fail optional	Did last firmware install on the device pass or fail Attributes: non-creatable, non-modifiable Possible values: • "failed" - Operation failed, • "passed" - Operation was successful
		node-	

node		name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
status		sp-fw-status optional	Status of this firmware image Attributes: non-creatable, non-modifiable Possible values: • "installed" - Firmware installed and in normal state, • "corrupt" - Firmware is corrupt, • "updating" - Firmware is undergoing a manual update, • "auto_updating" - Firmware is undergoing an automatic update, • "none" - Firmware status not known
type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC
version		string optional	Firmware version in this image Attributes: non-creatable, non-modifiable

Element definition: **service-processor-image-update-progress-info**

[top]

Service processor image update progress information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
end-time		datetime optional	Time when the firmware finished (if complete, else empty) Attributes: non-creatable, non-modifiable
is-in-progress		boolean optional	Is a firmware update in progress Attributes: non-creatable, non-modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
percent-done	**[0..100]**	integer optional	Current progress of the firmware update percentage Attributes: non-creatable, non-modifiable
start-time		datetime optional	Time when the firmware update started Attributes: non-creatable, non-modifiable

Element definition: **service-processor-info**

[top]

Service processor information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
device-revision		string optional	Device revision. Applicable for RLM only Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware version installed on the device Attributes: non-creatable, non-modifiable
ip-address		ip-address[] optional	Public IP addresses of the device Attributes: non-creatable, non-modifiable
is-autoupdate-enabled		boolean optional	Is firmware autoupdate enabled for the device Attributes: non-creatable, non-modifiable
is-ip-configured		boolean optional	Is network configured on the device to have at least one public IP address Attributes: non-creatable, non-modifiable
mac-address		mac-address optional	MAC address of the device Attributes: non-creatable, non-modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
part-num		string optional	Part number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable
serial-num		string optional	Serial number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable
status		sp-status-type optional	Current status of the device Attributes: non-creatable, non-modifiable Possible values: • "online" - Device is up and running fine, • "offline" - Device is out of communication, • "sp_daemon_offline" - Daemon which communicates with the device is not running, • "node_offline" - Node that hosts the device is out of communication, • "degraded" - Node that hosts the device is missing heartbeat signals from the device, • "rebooting" - Device is rebooting, • "unknown" - Device status could not be determined, • "updating" - BMC is updating
type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC

Element definition: **service-processor-log-info**

[top]

Service Processor Log Allocation Info. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	The host node name where the log files are located Attributes: key, non-creatable, non-modifiable
remote-node		string optional	The node name the log files are collected from Attributes: key, non-creatable, non-modifiable
seqlist	**[0..2^32-1]**	integer[] optional	The sequence numbers of the log files Attributes: non-creatable, non-modifiable

Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-type		sp-ip-address-type optional	Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
device-type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC
dhcp		sp-dhcp-status optional	DHCP status for the configuration Attributes: non-creatable, modifiable Possible values: • "v4" - DHCP for IPv4, • "none" - DHCP not enabled, • "v6" - DHCP for IPv6

gateway-ip-address		ip-address optional	IP address of the network gateway Attributes: non-creatable, modifiable
ip-address		ip-address optional	IP address currently held by the device Attributes: non-creatable, modifiable
is-enabled		boolean optional	Is this address configuration enabled Attributes: non-creatable, modifiable
is-ipv6-ra-enabled		boolean optional	IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable
link-local-ip-address		ip-address optional	Link local IP address Attributes: non-creatable, non-modifiable
link-status		sp-link-status optional	Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values: • "up" - Link is connected, • "down" - Link is severed, • "disabled" - Link has been disabled by user, • "unknown" - Link status is no known
mac-address		mac-address optional	MAC address of the device Attributes: non-creatable, non-modifiable
netmask		ip-address optional	Netmask for the device Attributes: non-creatable, modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
prefix-length	**[0..64]**	integer optional	Prefix length of subnet mask Attributes: non-creatable, modifiable
router-ip-address		ip-address optional	Router assigned IP address Attributes: non-creatable, non-modifiable
setup-failure-reason		sp-setup-errcodes optional	SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values: • "success" - No error, • "subnet_out_of_address" - Run out of IP address, • "invalid_subnet" - Invalid subnet, • "other_error" - Other errors
setup-status		sp-setup-status optional	SP network configuration status Attributes: non-creatable, non-modifiable Possible values: • "not_setup" - Configuration not done, • "succeeded" - Configuration succeeded, • "in_progress" - Configuration in progress, • "failed" - Configuration failed
status		sp-status-type optional	Current status of the device Attributes: non-creatable, non-modifiable Possible values: • "online" - Device is up and running fine, • "offline" - Device is out of communication, • "sp_daemon_offline" - Daemon which communicates with the device is not running, • "node_offline" - Node that hosts the device is out of communication, • "degraded" - Node that hosts the device is missing heartbeat signals from the device,

			"rebooting" - Device is rebooting, • "unknown" - Device status could not be determined, • "updating" - BMC is updating
subnet-name		string optional	Subnet Name Attributes: non-creatable, non-modifiable

Element definition: **service-processor-network-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against service-processor object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
service-processor-key		service-processor-network-info	The keys for the service-processor object to which the modify operation applies.

Element definition: **service-processor-ssh-info**

[top]

Service Processor SSH Allowed IP addresses Configuration applied across the Cluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allowed-addresses		ip-and-mask[] optional	List of Allowed IP Addresses. Attributes: non-creatable, non-modifiable

Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,
- "v6" - DHCP for IPv6

[none]

Element definition: **sp-fw-type** [top]

Choices for the two firmware images installed on a SP/RLM device Possible values:

- "primary" - Firmware which the device boots into by default,
- "backup" - Firmware which the device boots into if primary fails

[none]

Element definition: **sp-fw-update-type** [top]

Possible choices for a firmware update type Possible values:

- "serial_full" - Replace the fimrware completely with new package using package interface.,
- "serial_differential" - Replace only parts of firmware which have changed in new package using package interface.,
- "network_full" - Replace the fimrware completely with new package using network interface.,
- "full" - Deprecated version of serial-full.,
- "differential" - Deprecated version of serial-differential.

[none]

Element definition: **sp-ip-address-type** [top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

Element definition: **sp-subnet-name-info** [top]

Service Processor subnet name that provides IP resources for auto-configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
subnet-name-v4		string optional	IPv4 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable
subnet-name-v6		string optional	IPv6 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable

Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

Element definition: **mac-address** [top]

MAC Address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-type		sp-ip-address-type optional	Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values: • "ipv4" - Internet Protocol version 4, • "ipv6" - Internet Protocol version 6
device-type		sp-type optional	Type of device Attributes: non-creatable, non-modifiable Possible values: • "sp" - Service Processor, • "none" - NONE, • "bmc" - BMC
dhcp		sp-dhcp-status optional	DHCP status for the configuration Attributes: non-creatable, modifiable Possible values: • "v4" - DHCP for IPv4, • "none" - DHCP not enabled, • "v6" - DHCP for IPv6
gateway-ip-address		ip-address optional	IP address of the network gateway Attributes: non-creatable, modifiable
ip-address		ip-address optional	IP address currently held by the device Attributes: non-creatable, modifiable
is-enabled		boolean optional	Is this address configuration enabled Attributes: non-creatable, modifiable
is-ipv6-ra-enabled		boolean optional	IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable
link-local-ip-address		ip-address optional	Link local IP address Attributes: non-creatable, non-modifiable
link-status		sp-link-status	Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values: • "up" - Link is connected,

		optional	"down" - Link is severed, • "disabled" - Link has been disabled by user, • "unknown" - Link status is no known
mac-address		mac-address optional	MAC address of the device Attributes: non-creatable, non-modifiable
netmask		ip-address optional	Netmask for the device Attributes: non-creatable, modifiable
node		node-name optional	Node on which the device is located Attributes: key, non-creatable, non-modifiable
prefix-length	**[0..64]**	integer optional	Prefix length of subnet mask Attributes: non-creatable, modifiable
router-ip-address		ip-address optional	Router assigned IP address Attributes: non-creatable, non-modifiable
setup-failure-reason		sp-setup-errcodes optional	SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values: • "success" - No error, • "subnet_out_of_address" - Run out of IP address, • "invalid_subnet" - Invalid subnet, • "other_error" - Other errors
setup-status		sp-setup-status optional	SP network configuration status Attributes: non-creatable, non-modifiable Possible values: • "not_setup" - Configuration not done, • "succeeded" - Configuration succeeded, • "in_progress" - Configuration in progress, • "failed" - Configuration failed
status		sp-status-type optional	Current status of the device Attributes: non-creatable, non-modifiable Possible values: • "online" - Device is up and running fine, • "offline" - Device is out of communication, • "sp_daemon_offline" - Daemon which communicates with the device is not running, • "node_offline" - Node that hosts the device is out of communication, • "degraded" - Node that hosts the device is missing heartbeat signals from the device, • "rebooting" - Device is rebooting, • "unknown" - Device status could not be determined, • "updating" - BMC is updating
subnet-name		string optional	Subnet Name Attributes: non-creatable, non-modifiable

Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,

- "v6" - DHCP for IPv6

[none]

Element definition: **sp-fw-status**

[top]

Possible states the firmware of a SP/RLM device can be in Possible values:

- "installed" - Firmware installed and in normal state,
- "corrupt" - Firmware is corrupt,
- "updating" - Firmware is undergoing a manual update,
- "auto_updating" - Firmware is undergoing an automatic update,
- "none" - Firmware status not known

[none]

Element definition: **sp-ip-address-type**

[top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

Element definition: **sp-link-status**

[top]

Possible states for the underlying physical link for a network insterface Possible values:

- "up" - Link is connected,
- "down" - Link is severed,
- "disabled" - Link has been disabled by user,
- "unknown" - Link status is no known

[none]

Element definition: **sp-pass-fail**

[top]

Possible completion states of a task Possible values:

- "failed" - Operation failed,
- "passed" - Operation was successful

[none]

Element definition: **sp-setup-errcodes**

[top]

SP network setup error codes Possible values:

- "success" - No error,
- "subnet_out_of_address" - Run out of IP address,
- "invalid_subnet" - Invalid subnet,
- "other_error" - Other errors

[none]

Element definition: **sp-setup-status**

[top]

SP network setup status Possible values:

- "not_setup" - Configuration not done,
- "succeeded" - Configuration succeeded,
- "in_progress" - Configuration in progress,
- "failed" - Configuration failed

[none]

Element definition: **sp-status-type**

[top]

Possible states a Service Processor or Remote LAN Module can be in Possible values:

- "online" - Device is up and running fine,
- "offline" - Device is out of communication,
- "sp_daemon_offline" - Daemon which communicates with the device is not running,
- "node_offline" - Node that hosts the device is out of communication,
- "degraded" - Node that hosts the device is missing heartbeat signals from the device,
- "rebooting" - Device is rebooting,
- "unknown" - Device status could not be determined,
- "updating" - BMC is updating

[none]

Element definition: **sp-type**

[top]

Types of remote management device that can be found in a node Possible values:

- "sp" - Service Processor,
- "none" - NONE,
- "bmc" - BMC

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **mac-address** [top]

MAC Address

[none]

Element definition: **node-name** [top]

The node's name

[none]

APIs in Category: **ses**

storage-shelf-bay-list-info
storage-shelf-environment-list-info
storage-shelf-get-channel-list
storage-shelf-get-shelf-info
storage-shelf-get-shelf-list
storage-shelf-list-info
storage-shelf-set-led-state
storage-shelf-update-fw

storage-shelf-bay-list-info

[top]

Returns information about storage shelf bays and ports for a selected number of shelves, or optionally all shelves connected to the storage controller.

Input Name	Range	Type	Description
channel-name		string optional	The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples: 8a, switch:5
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching shelves in the cluster will be returned. This is the storage system name the command will be executed on.
shelf-id	**[0..99]**	integer optional	shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported and an error will be returned.

Output Name	Range	Type	Description
shelf-bay-list		shelf-bay-list-info[]	Each instance of shelf-list contains available bay information on a shelf.

Errno	Description
EINTERNALERROR	
ECHANNELNOTFOUND	
ESHELFNOTFOUND	
EINVALIDINPUTERROR	

storage-shelf-environment-list-info

[top]

Returns the environmental information for a selected number of shelves, or optionally all shelves connected to the storage controller.

Input Name	Range	Type	Description
channel-name		string optional	Get environment information for shelves on this channel. shelf-id parameter can be specified to request data on a single shelf. If a channel-name is not specified, then data on all shelves on all channels will be returned. If an invalid channel-name is specified, then error code ECHANNELNOTFOUND will be returned.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.
			Get environment information for the specified shelf-id on the specified channel-name. This parameter requires channel-name parameter as well.

shelf-id	**[0..99]**	integer optional	If shelf-id is specified without channel-name then the error code EINVALIDINPUTERROR will be returned. If shelf-id is not specified and a channel-name is specified, then data for all shelves on the channel-name is returned. If an invalid shelf-id is specified, then error code ESHELFNOTFOUND will be returned.

Output Name	Range	Type	Description
shelf-environ-channel-list		shelf-environ-channel-info[]	List of channels and associated environment information on the shelves in the channel. Only on-line channels that have shelves attached will be reported.

Errno	Description
EINTERNALERROR	
ECHANNELNOTFOUND	
ESHELFNOTFOUND	
EINVALIDINPUTERROR	

storage-shelf-get-channel-list

[top]

Get the list of SES channels present on this system.

Output Name	Range	Type	Description
channel-list		channel-info[]	The channel-list is a list of the names of channels to which enclosure services are connected. These channel names can be used by other commands, including storage-shelf-set-led-state.

storage-shelf-get-shelf-info

[top]

This returns information about an identified shelf. The information is the number of bays present (bay-count), and which shelf bays have drives (bay-list). Shelf bays are numbered from 0 to bay-count minus 1. Shelf bay 0 is always on the right when looking at the front of the shelf. Incidentally, the bay-list may be empty indicating the absence of any drives. However, there are some shelf designs which require a disk drive in bay 0 or 1 for any SES functionality to operate (e.g., DS14 and DS14-Mk2-FC). In these cases, shelves without drives in bay 0 or 1 will not be listed.

Input Name	Range	Type	Description
channel-name		string	The adapter number or switch name and theport number (together, called the channel). Examples are 8a and switch:5
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name name the command will be executed on.
shelf-id		integer	The shelf id specifies the shelf for which a list of disk bays is desired. Range : [0..2^24-1]

Output Name	Range	Type	Description
bay-count	**[0..255]**	integer optional	Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state. Range : [0..255]
bay-list		bay-info[]	A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements.
disk-count	**[0..255]**	integer optional	The total number of disks that are present in the shelf.
firmware-rev-A		string optional	Shelf Module A firmware revision.
firmware-rev-B		string optional	Shelf Module B firmware revision.

firmware-revision		string	Shelf firmware revision.
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
shelf-type		string optional	Shelf module type. Some examples are: "esh2", and "at-fcx".

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	

storage-shelf-get-shelf-list

[top]

Get the list of SES shelves present on a channel. Use storage-shelf-get-channel-list to determine all the channels to which shelves are connected. Note that some shelves may be connected to multiple channels.

Input Name	Range	Type	Description
channel-name		string	The adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5.

Output Name	Range	Type	Description
shelf-list		shelf-id-info[]	The shelf-list is list of the shelf-ids of the shelves connected to the supplied channel. These shelf-ids can be used by other commands, including storage-shelf-set-led-state. This list may be empty if there are no shelves attached to the specified channel.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	

storage-shelf-list-info

[top]

This interface returns information about one or more shelves.

Input Name	Range	Type	Description
channel-name		string optional	The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples are 8a and switch:5
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.
shelf-id	[0..99]	integer optional	shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported. In such case information for all shelves on all channels will be presented.

Output Name	Range	Type	Description
shelf-list		shelf-info[]	Each instance of shelf-list contains all available information on a shelf hub. This can be empty if there are no shelves attached or if shelves do not support hubs. Also a partner shelf can be reported.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	

Errno	Description
EINVALIDINPUTERROR	

storage-shelf-set-led-state

[top]

Set or clear the LED for a disk, shelf of disks or loop of shelves. LEDs to affect can be specified as: {channel-name}, {channel-name, shelf-id}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay, lun}.

Input Name	Range	Type	Description
action		string required	This specifies the action to apply. Possible values are: on, and off. on: Turn the LED(s) on indefinitely. off: Turn the LED(s) off.
channel-name		string	The channel to which the shelf or drive LED to be affected is connected. A channel-name is the adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5.
duration		integer optional	This parameter allows the caller to specify the duration (in seconds) that the action will be applied. Note that the action 'on' is indefinite, while 'test' uses duration. 'blink' also uses duration.
identify		boolean optional	This parameter allows the caller to specify the identify LED. The default is for the command to affect the fault LED. Not all disks have identify LEDs. In that case, the identify option is ignored and the fault LED is affected.
lun		integer optional	Some targets have a logical unit number. In that case, the lun will be required to uniquely specify the LED to affect. Range : [0..255]
shelf-bay		integer optional	If present, the shelf-bay indicates the specific drive where the LED affected resides. If shelf-id is supplied but shelf-bay is not, then the LEDs for all drives in the shelf will be affected. Range : [0..255]
shelf-id		integer optional	If present, the shelf-id indicates which shelf has the drive or drives where the LEDs to affect reside. Range : [0..2^24-1]

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	

storage-shelf-update-fw

[top]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision. The firmware revision on the shelves can be monitored via the storage-shelf-get-shelf-info API. NOT IMPLEMENTED YET.

Input Name	Range	Type	Description
channel-name		string optional	If present, will only update firmware on all shelves (or a single shlef depending on shelf-id) on the given channel. If not present, then all shelves on all channels are updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1.
shelf-id		string optional	If present, will only update firmware on the given shelf on specified channel. If not present, and a channel-name is specified, then all shelves on the channel will be updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

Name	Range	Type	Description
drawer-bay-slot-number		integer optional	Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254]
drawer-number		integer optional	Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254]
lun		integer optional	The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255]
shelf-bay		integer	A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255]

Element definition: **channel-info**

[top]

Interconnect channel information

Name	Range	Type	Description
channel-name		ha-ic-channel optional	High-availability interconnect channel name. Attributes: non-creatable, non-modifiable Possible values: • "kstat" - HA Interconnect KSTAT Channel, • "ofw" - HA Interconnect OFW Channel, • "kill" - HA Interconnect KILL Channel, • "wafl" - HA Interconnect WAFL NV Channel, • "raid" - HA Interconnect RAID NV Channel, • "misc" - HA Interconnect MISC NV Channel, • "stream0" - HA Interconnect STREAM0 Channel, • "stream1" - HA Interconnect STREAM1 Channel, • "stream2" - HA Interconnect STREAM2 Channel, • "stream3" - HA Interconnect STREAM3 Channel, • "drsom" - HA Interconnect MCC DRSOM Channel, • "drckill" - HA Interconnect MCC DRC KILL Channel, • "control" - HA Interconnect CONTROL Channel, • "sldiag" - HA Interconnect SLDIAG Channel, • "traffic" - HA Interconnect TRAFFIC Channel, • "hb" - HA Interconnect HB Channel, • "ftfs" - FTFS PMEM Channel, • "stream4" - HA Interconnect STREAM4 Channel, • "stream5" - HA Interconnect STREAM5 Channel, • "stream6" - HA Interconnect STREAM6 Channel, • "stream7" - HA Interconnect STREAM7 Channel, • "wafl1" - HA Interconnect WAFL1 NV Channel, • "wafl2" - HA Interconnect WAFL2 NV Channel, • "wafl3" - HA Interconnect WAFL3 NV Channel, • "wafl4" - HA Interconnect WAFL4 NV Channel, • "wafl5" - HA Interconnect WAFL5 NV Channel, • "wafl6" - HA Interconnect WAFL6 NV Channel, • "wafl7" - HA Interconnect WAFL7 NV Channel
channel-state		ha-ic-channel-state optional	High-availability interconnect channel state. Attributes: non-creatable, non-modifiable Possible values: • "connecting" - HA Interconnect Entity Connecting State, • "established" - HA Interconnect Entity Established State, • "disconnecting" - HA Interconnect Entity Disconnecting State, • "disconnected" - HA Interconnect Entity Disconnected State, • "unknown" - HA Interconnect Entity Unknown State
handle	**[0..2^64-1]**	integer optional	Remote entity handle associated with the channel. Attributes: non-creatable, non-modifiable
ipaddress		string optional	IP address associated with the channel. Attributes: non-creatable, non-modifiable

link-number		string optional	Link number on which the channel is established. Attributes: non-creatable, non-modifiable
port-name		string optional	Port name on which the channel is established. Attributes: non-creatable, non-modifiable
transport		ha-ic-transport optional	Transport type of the channel. Attributes: non-creatable, non-modifiable Possible values: • "infiniband" - HA Interconnect Infiniband Transport, • "fcvi" - HA Interconnect FCVI Transport, • "mvia" - HA Interconnect M-VIA Transport, • "unknown" - HA Interconnect Unknown Transport, • "iwarp" - HA Interconnect iWARP Transport, • "roce" - HA Interconnect RoCE Transport

Element definition: **shelf-bay-list-info**

[top]

Bay and port information on a shelf module.

Name	Range	Type	Description
channel-name		string	The channel the shelf (hub) is attached to. Example: 0c.
module		string	The shelf module attachment. Possible values: "a", "b".
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
port-list		shelf-bay-port-info[] optional	Shelf bay specific information.
shelf-id	**[0..99]**	integer	The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node.
shelf-name		string	Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1.
shelf-state		string	Current state of the shelf. Possible values are: "no_status", "init_required", "online", "missing", "failed", "unknown".
shelf-type		string	Shelf module type. Possible values: "edm", "vem", "esp", "lrc", "esh", "esh2", "esh4", "eshfx", "eshtx", "emu", "efh", "at-fc", "at-fc2", "at-fcx", "at-fcx2", "sas", "esas", "sas-fc", "iom3", "iom6", "iom6e".
shelf-uid		string	Shelf unique identifier that distinguishes it from other shelves manufactured. Example: 50:05:0c:c0:02:10:64:26.

Element definition: **shelf-environ-channel-info**

[top]

Shelf environment information.

Name	Range	Type	Description
channel-name		string	Storage controller channel the shelf is connected to.
is-channel-monitor-enabled		boolean	Indicates whether monitoring is enabled on this channel.
is-shelf-channel-failure		boolean	Indicates whether any shelves on this channel have experienced a failure.
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
shelf-environ-channel-address		shelf-environ-channel-address-map[] optional	A list of all the shelf assigned addresses assigned on this channel.
shelf-environ-shelf-list		shelf-environ-shelf-info[]	List of shelves in the channel and associated environment information.
shelves-present	**[0-**	integer	Number of shelves present on this channel.

	99]		

Element definition: **shelf-id-info**

[top]

A list of shelf-ids that can be used in other storage-shelf interface calls.

Name	Range	Type	Description
shelf-id		integer	The shelf id itself. shelf-id's are only unique within a particular channel. An example shelf-id is 1. A channel-name and shelf-id pair are required to uniquely identify a shelf on a system. Range : [0..2^24-1]

Element definition: **shelf-info**

[top]

Describes a shelf.

Name	Range	Type	Description
channel-name		string	The channel/port-number the shelf (hub) is attached to. If it is the partner node that is being reported, the value will be shown as "PARTNER". Examples: "0c" or "PARTNER".
firmware-rev-A		string optional	Shelf Module A firmware revision. When the channel-name field is "PARTNER" this field will not be present.
firmware-rev-B		string optional	Shelf Module B firmware revision. When the channel-name field is "PARTNER" this field will not be present.
module		string	The shelf module attachment. Possible values are: "a", "b".
module-state		string optional	Current state of the IO module attached to the shelf port (if any). Possible values are: "no_status", "ok", "missing", "transport error", "critical", "unreachable", "unknown".
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.
phy-expander-list		phy-expander-info[] optional	Each instance of phy-expander-list contains PHY (physical layer) expander information about each port. This applies to direct attached shelves with SAS modules only.
port-hub-list		port-hub-info[] optional	Each instance of port-hub-list contains hub information about each port. This applies to shelves with ESH modules only.
shelf-bay-info		shelf-bay-info optional	Detailed information on populated shelf bays. When the channel-name field is "PARTNER" this field will not be present.
shelf-id	**[0..99]**	integer	The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node.
shelf-name		string	Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1.
shelf-state		string	Current state of the shelf. Possible values are: "no status", "init required", "online", "missing", "unknown".
shelf-type		string	Shelf module type. Some examples are: "esh2", and "at-fcx".
shelf-uid		string	Similar to serial number, this is the shelf unique identifier that distinguishes it from any other shelf manufactured. Example: 50:05:0c:c0:02:10:64:26.
termination-switch		string optional	State of the termination switch on the shelf. Possible values are: "on", "off" and "n/a".

Element definition: **ha-ic-channel**

[top]

kstat|ofw|kill|wafl|raid|misc|stream0|stream1|stream2|stream3|drsom|drckill|control|sldiag|traffic|hb|ftfs|stream4|stream5|stream6|stream7|wafl1|wafl2|wafl3|wafl4|wafl5|wafl6|wafl7
Possible values:

- "kstat" - HA Interconnect KSTAT Channel,
- "ofw" - HA Interconnect OFW Channel,
- "kill" - HA Interconnect KILL Channel,

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel,
- "stream0" - HA Interconnect STREAM0 Channel,
- "stream1" - HA Interconnect STREAM1 Channel,
- "stream2" - HA Interconnect STREAM2 Channel,
- "stream3" - HA Interconnect STREAM3 Channel,
- "drsom" - HA Interconnect MCC DRSOM Channel,
- "drckill" - HA Interconnect MCC DRC KILL Channel,
- "control" - HA Interconnect CONTROL Channel,
- "sldiag" - HA Interconnect SLDIAG Channel,
- "traffic" - HA Interconnect TRAFFIC Channel,
- "hb" - HA Interconnect HB Channel,
- "ftfs" - FTFS PMEM Channel,
- "stream4" - HA Interconnect STREAM4 Channel,
- "stream5" - HA Interconnect STREAM5 Channel,
- "stream6" - HA Interconnect STREAM6 Channel,
- "stream7" - HA Interconnect STREAM7 Channel,
- "wafl1" - HA Interconnect WAFL1 NV Channel,
- "wafl2" - HA Interconnect WAFL2 NV Channel,
- "wafl3" - HA Interconnect WAFL3 NV Channel,
- "wafl4" - HA Interconnect WAFL4 NV Channel,
- "wafl5" - HA Interconnect WAFL5 NV Channel,
- "wafl6" - HA Interconnect WAFL6 NV Channel,
- "wafl7" - HA Interconnect WAFL7 NV Channel

[none]

Element definition: **ha-ic-channel-state**

[top]

connecting|established|disconnecting|disconnected|unknown Possible values:

- "connecting" - HA Interconnect Entity Connecting State,
- "established" - HA Interconnect Entity Established State,
- "disconnecting" - HA Interconnect Entity Disconnecting State,
- "disconnected" - HA Interconnect Entity Disconnected State,
- "unknown" - HA Interconnect Entity Unknown State

[none]

Element definition: **ha-ic-transport**

[top]

infiniband|fcvi|mvia|unknown|iwarp|roce Possible values:

- "infiniband" - HA Interconnect Infiniband Transport,
- "fcvi" - HA Interconnect FCVI Transport,
- "mvia" - HA Interconnect M-VIA Transport,
- "unknown" - HA Interconnect Unknown Transport,
- "iwarp" - HA Interconnect iWARP Transport,
- "roce" - HA Interconnect RoCE Transport

[none]

Element definition: **phy-expander-info**

[top]

Expander PHY (physical layer) information of an individual port.

Name	Range	Type	Description
bay-number	**[0..99]**	integer optional	Bay port number. Unique bay-number for each type of phy-type. Present when multiple phy's for a phy-type exist in the shelf, such as phy-type "disk", "P0", "P1".
crc-error-count	**[0..2^32-1]**	integer	This field presents the number of CRC errors that have been seen in any address or data frames. The value will be the count kept by the expander since either power-on or since the counts have been reset.
dongle-data		dongle-info optional	dongle information, if there's a dongle installed. Will be missing if not supported or not available. Present for drive phy only.
invalid-dword-count	**[0..2^32-1]**	integer	The number of invalid double words seen outside of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset.
link-rate		string optional	If port-state is "ok", then this is a floating number, representing SAS-1.1 defined negotiated link rate value for the phy in Gb/s. Example: 3.0. For all other port states, this field will not be available.
loss-dword-count	**[0..2^32-1]**	integer	This field presents the number of times the phy has lost double-word synchronization and restarted the link reset sequence of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset.
pathway-timeout	**[0..2^32-1]**	integer	This field the partial pathway timeout value, in microseconds, being used for the phy.
phy-change-count	**[0..2^32-1]**	integer	This field the number of times this logical phy has changed state. This count increments when the logical phy transitions from disabled to enabled. This count also increments when the logical phys transitions from enabled to disabled. The value will be the count kept by the expander since either power-on or since the counts have been reset.
phy-number	**[0..99]**	integer optional	PHY number. Unique phy-number in the shelf, regardless of phy-type.
phy-power-status		string optional	Current power status. Possible values: "on", "off". Will be missing if not supported or not available. Present for drive phy only.
phy-reset-problem	**[0..2^32-1]**	integer	This field presents the number of times the phy reset sequence has failed. The value will be the count kept by the expander since either power-on or since the counts have been reset.
phy-state		string optional	State of the phy. Possible values: "rate_unknown", "disabled", "speed_negotiation_failed", "sata_oob_failed", "1.5_gbps", "3.0_gbps", "6.0_gbps", "12.0_gbps", "state_unknown",
phy-type		string optional	PHY type. Possible values: "disk", "p0", "p1", "v255", "v99".
port-id		string	Possible values are: port id in range [0..19] or "in0", "in1", "in2", "in3", "out0", "out1", "out2", "out3", representing one of the input or output ports.
port-state		string	Current port state. Possible values are: "ok", "unkwn_lnk", "unused", "unkwn", "empty", "dis_man", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "dis_resv", "dis_unusd", "unknown", "no_signal",
power-cycle-count	**[0..255]**	integer optional	This field presents the number of times the driver has been power cycled via this phy. Will be missing if not supported or not available. Present for drive phy only.
release-count	**[0..255]**	integer optional	This field presents the number of times the driver has been released (unreserved) via this phy. Will be missing if not supported or not available. Present for drive phy only.
reserve-count	**[0..255]**	integer optional	This field presents the number of times the driver has been reserved via this phy. Will be missing if not supported or not available. Present for drive phy only.
running-disparity-count	**[0..2^32-1]**	integer	The number of Dwords with a running disparity error seen outside the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset.

Element definition: **port-hub-info**

[top]

Hub information for an individual port.

Name	Range	Type	Description
clock-delta	**[-2^31..2^31-1]**	integer	The clock delta between this port in respect to ESH clock and other ports in the ESH.
disk-bay	**[0..23]**	integer optional	If port-id is "in", "out", "aux1" or "aux2" then this is not populated, otherwise, it represents the shelf bay that the disk resides in.
insert-count	**[0..2^32-1]**	integer	Number of times this port has been inserted into the loop.
invalid-crc-count	**[0..2^32-1]**	integer	Number of times this port has seen a CRC error.
invalid-word-count	**[0..2^32-1]**	integer	Number of times this port has seen invalid FC-AL words transmitted.
lip-count	**[0..2^32-1]**	integer optional	Lip count, number of times loop initialization primitive has been generated. This field is not available on all shelf modules.
loop-up-count	**[0..2^32-1]**	integer	Number of times this port has seen the loop come up/transition to up.
port-id		string	Possible values are: port number in the range of 0 to 255 or "in", "out", "aux1" or "aux2" representing input, output or one of auxiliary ports. This is the same as FCAL ALPA for the port.
port-state		string	Current port state. Possible values are: "ok", "empty", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "unknown", "term-err", "term", "autoterm".
stall-count	**[0..2^32-1]**	integer	Number of times this port exceeded the OPN/CLS maximum threshold.
utilization-percentage	**[0..100]**	integer	Relative utilization of this port vs. other ports in the ESH.

Element definition: **shelf-bay-info**

[top]

Shelf bay information.

Name	Range	Type	Description
bay-count	**[0..255]**	integer optional	Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state.
bay-list		bay-info[]	A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements.

Element definition: **shelf-bay-port-info**

[top]

Shelf bay port specific information.

Name	Range	Type	Description
bay-no	**[0..23]**	integer optional	Disk bay number or port number, if applicable. In some instances bay numbers do apply and will not be present. An example is an ESH shelf with a single "in" and a single "out" port.
disk-name		string optional	if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be the disk name. Otherwise the field will be missing.
disk-uid		string optional	if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be UID of the disk. Otherwise the field will be missing.
port-designator		string optional	Shelf bay port designator. Possible values: "in", "out", "aux", "sqr", "cir", "sil", "hi_ho", "a_to_b", "b_to_a", "disk_bay" and "dcm#.#" where the the first # ranges from 0 to 5 and the second # ranges from 0 to 3.

port-state		string optional	Current port state. Possible values are: "ok", "empty", "unkwn_lnk", "no_signal", "unused", "unkwn", "unknown", "dis_man", "dis_unusd", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "term-err", "term", "autoterm".

Element definition: **shelf-environ-channel-address-map**

[top]

A list of all the shelf assigned addresses assigned on this channel.

Name	Range	Type	Description
address-map		string	A comma separated list of addresses assigned on this channel by the shelf specified in shelf-no output above.
drawer-address-map-list		drawer-address-map[] optional	A list of all the drawers in the shelf and the addresses assigned to each drawer devices.
shelf-id	**[0..255]**	integer	Shelf number for presented address map.

Element definition: **shelf-environ-shelf-info**

[top]

Shelf environment information.

Name	Range	Type	Description
alternate-control-path-information		alternate-control-path-info[] optional	Available information on the alternate control path (ACP) to the shelf.
ariodata-specific-info		ariodata-specific-info optional	Vendor specific enclosure system information for Ariodata shelves.
attached-shelf-bay-error-list		string optional	A list of bays numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list from high to low. Example: "13, 10, 4, 1".
attached-shelf-bay-list		string	A list of bays numbers in this shelf that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list from high to low. Example: "13, 11, 10, 4, 3, 2, 1".
attached-shelf-drawer-bay-error-list		shelf-drawer-bay-error[] optional	A list of bay numbers in this shelf drawer that have disk devices with errors.
attached-shelf-drawer-bay-list		shelf-drawer-bay[] optional	A list of bay numbers in this shelf drawer that have disk devices installed.
connector-information		connector-info[] optional	Cable and connector information if available and supported by the hardware. Will not be present if the feature is not supported in the hardware.
control-writes-attempted	**[0..2^32-1]**	integer	Number of times attempted to write shelf controls.
control-writes-failed	**[0..2^32-1]**	integer	Number of times failed to write shelf controls.
controller-device-path		string	Device path to the shelf controller. Possible values: "embedded_access", "local_access", "unknown", "not_available".
controller-device-path-port		string optional	If controller-device-path is "local_access", then this presents the local access port number.
		cooling-	

cooling-element-list		element-info[] optional	Information on installed cooling elements in the shelf.
current-sensor-list		current-sensor-info[] optional	Information on current sensors in the shelf.
dcm-list		dcm-info optional	Information on the installed drawer control module (dcm). This will be presented for shelves that have drawers built in.
enclosure-information		enclosure-info optional	Information on the enclosure type. This information will be presented for ESH and SAS shelves only.
es-electronics-list		es-electronics-info[] optional	Information on the installed enclosure services electronics.
eurologic-specific-info		eurologic-specific-info optional	Vendor specific enclosure system information for Eurologic shelves.
is-shelf-monitor-enabled		boolean	Indicates whether monitoring is enabled on this shelf.
power-control-failure-state		string optional	Extension to the power-control-status to provide more information in case of shelf failures. Possible values: "dual_esh4_modules_not_present", "power_control_fault_detected", "incompatible_power_control_implementation", "power_control_function_not_available", "backplane_cpld_fault_detected".
power-control-status		string optional	Power control element status. This is generalization of the ESH4 shelf power status. Currently available on ESH 4 shelves only. Possible values: "ok", "not_supported", "critical", "non_critical", "unknown".
power-supply-list		power-supply-info[] optional	Information on installed power supplies in the shelf.
processor-complex-information		processor-complex-info[] optional	Available information on the processor complex modules (PCMs) in the shelf.
sas-specific-info		sas-specific-info optional	Vendor specific enclosure system information for SAS shelves.
ses-generic-info		ses-generic-info	Generic SES (scsi enclosure services) information.
shelf-id	**[0-99]**	integer	Shelf number.
shelf-status		string	Current shelf status. Possible values: "unrecoverable", "critical", "non_critical", "informational", "normal".
shelf-type		string	Shelf type. Possible values: "edm", "vem", "esp", "lrc", "lrc2", "esh", "esh2", "esh4", "eshfx", "emu", "efh", "eshtx", "sas", "esas", "sas_fc", "iom3", "at_fcx", "at_fcx2", "iom6", "iom6e".
status-reads-attempted	**[0..2^32-1]**	integer	Number of times attempted to read shelf status.
status-reads-failed	**[0..2^32-1]**	integer	Number of times failed to read shelf status.
temp-sensor-list		temp-sensor-info[] optional	Information on installed temperature sensors in the shelf.
voltage-sensor-list		voltage-sensor-info[] optional	Information on voltage sensors in the shelf.
xyratex-specific-info		xyratex-specific-info optional	Vendor specific enclosure system information for Xyratex shelves.

Element definition: **alternate-control-path-info**

[top]

Available information on the alternate control path (ACP) to the shelf.

Name	Range	Type	Description
acp-element-no	**[1..2]**	integer	ACP element number
controller-acp-connection-status		string optional	Storage controller's ACP connection status. Possible values: "no_connectivity", "partial_connectivity", "full_connectivity", "additional_connectivity", "unknown", "not_available", "not_applicable".
controller-acp-domain		string optional	This fields presents the ACP's domain on the storage controller. Example: 255.255.255.0
controller-acp-ethernet-port		string optional	This fields presents the ACP's ethernet port on the storage controller. Example: e0a, e4d.
controller-acp-ip-address		string optional	This fields presents the ACP's IP address on the storage controller. Example: 172.168.4.4
controller-acp-netmask		string optional	This fields presents the ACP's netmask on the storage controller. Example: 172.168.4.1
is-acp-element-error		boolean optional	Indicates if there has been a failure in the ACP block. Will not be present if an ACP element is not installed.
is-acp-element-not-installed		boolean optional	Indicates if ACP element has been installed. Will be present only if the element is not installed, in which case no further information will be provided.
is-controller-acp-active		boolean optional	Indicates whether the ACP function is active on the storage controller. Inactive ACP unually means there is configuration or connection error that needs to be resolved.
is-controller-acp-enabled		boolean optional	Indicates if ACP functionality is enabled in the storage controller. If the ACP funtion is not enalbed the following fields will not be presented.
module-firmware-revision		string optional	Firmware version of the ACP controller. This field will not be present if the value is unknown or not available, or if an ACP element is not installed.
module-ip-address		string optional	IP address that is used by this ACP shelf module. This field will not be present if the IP address is unknown or not available, or if an ACP element is not installed.
module-mac-address		string optional	MAC address that is used by this module's ACPP. This field will not be present if the MAC address is unknown or not available, or if an ACP element is not installed.
module-name		string optional	Shelf module for this ACPP. Possible Values: "A", "B" This field will not be present if it is unknown or not available, or if an ACP element is not installed.
module-reset-count	**[0..2^32-1]**	integer optional	Number of times the corresponding shelf I/O module has been reset using this ACPP. This field will not be present if it is unknown or not available, or if an ACP element is not installed.
module-status		string optional	ACP status of this shelf module. This field will not be present if it is unknown or not available, or if an ACP element is not installed. Possible values: "active", "inactive_not_ready", "inactive_waiting_for_inband_info", "inactive_no_inband_connectivity", "inactive_not_responding", "inactive_updating_firmware", "inactive_initializing", "inactive_unknown".
module-status-time		string optional	Time of last contact with the ACP controller. This is only valid if the value of module-status field is inactive_not_responding.

Element definition: **ariodata-specific-info**

[top]

Vendor specific enclosure system information for Ariodata shelf.

Name	Range	Type	Description
ariodata-serial-no		string	Serial number for Ariodata shelf.

Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

Name	Range	Type	Description
drawer-bay-slot-number		integer optional	Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254]
drawer-number		integer optional	Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254]
lun		integer optional	The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255]
shelf-bay		integer	A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255]

Element definition: **connector-info**

[top]

Information on cables and/or connectors connected to the shelf

Name	Range	Type	Description
sas-connector-list		sas-connector-info[] optional	Information on SAS connectors & cables.

Element definition: **cooling-element-info**

[top]

Information on individual cooling elements (fans).

Name	Range	Type	Description
cooling-element-is-error		boolean optional	Indicated whether cooling elements has failed or reported any errors. Will not be present if cooling element is not installed.
cooling-element-is-not-installed		boolean optional	Indicates the cooling elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented.
cooling-element-number	**[0..255]**	integer	Cooling element number.
rpm	**[0..32766]**	integer optional	Current RPM (revolutions per minutes) of the fan. Will not be present if RPM is not available at the time API is executed or if RPM detection hardware is not supported by the shelf or if cooling element is not installed.

Element definition: **current-sensor-info**

[top]

Presents the electrical current sensor information, if implemented on the system.

Name	Range	Type	Description
current-sensor-no	**[1..20]**	integer	Current sensor number.
is-sensor-error		boolean optional	Will indicate whether the sensor has encountered an error.
is-sensor-not-installed		boolean optional	Indicates the current sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented.

sensor-condition		string optional	A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overcurrent_failure", "overcurrent_warning", "normal_operating_range".
sensor-reading		string optional	Current reading of the sensor. This field will be not be present if unable to read the sensor value properly.

Element definition: **dcm-info**

[top]

The shelf drawer control module information (dcm).

Name	Range	Type	Description
dcm-firmware-version		string optional	The firmware version of the dcm.
dcm-number	**[0..254]**	integer	The DCM number.
dcm-part-number		string optional	The part number of the dcm.
dcm-serial-number		string optional	The serial number of the dcm.
dcm-type		string optional	The dcm type.
dcm-vendor		string optional	The dcm vendor.
is-dcm-error		boolean optional	Indicates whether this module has encountered an error.
is-dcm-installed		boolean optional	Indicates the dcm for this element is installed.

Element definition: **dongle-info**

[top]

dongle information

Name	Range	Type	Description
disable-reason		string optional	If phy-state is "disabled", then this will give explanation as to the reason. Possible values: "manual", "no_drive", "brst_los", "los", "brst_rdd", "rdd", "brst_idd", "idd", "brst_prp", "prp", "brst_pcd", "pcd", "brst_crc", "crc", "osc", "mir", "rsrv", "man_smp", "clk_flt", "unknown".
dongle-firmware-revision		string optional	Dongle firmware revision. Will be missing if not supported or not available.
dongle-type		string optional	Dongle type. Possible values: "ss1300b", "sas", "sps3g", Will be missing if not supported or not available.

Element definition: **drawer-address-map**

[top]

The shelf drawer devices address map.

Name	Range	Type	Description
address-map		string	A list of addresses assigned to this channel for the drawer on the shelf specified in the shelf-id output above.
drawer-number	**[0..254]**	integer	The DCM number.

Element definition: **enclosure-info**

[top]

Information on the enclosure type. This information will be presented for ESH and SAS shelves only.

Name	Range	Type	Description
enclosure-type		string	Enclosure type. Possible values: "sas_expander_module", "embedded_switching_hub".
module-list		module-info[]	Information on the enclosure modules.

Element definition: **es-electronics-info**

[top]

Information on the installed enclosure services (ES) electronics.

Name	Range	Type	Description
es-electronics-element-no	**[0..255]**	integer	Enclosure services electronics element number.
es-electronics-is-error		boolean optional	indicates whether this enclosure services electronics has reported any errors. Will not be present if the element is not installed.
es-electronics-is-not-installed		string optional	Indicates this enclosure services electronics is not installed. This will only be presented when the element is missing, no further data for this element will be presented.
es-electronics-is-reporting-element		boolean optional	Indicated whether this is the element reporting. Even though there might be more than one element installed, only will be reporting at any time. Will not be present if the element is not installed.
es-electronics-serial-no		string optional	Serial number for the enclosure services electronics. Will not be present if the element is not installed.
es-part-number		string optional	Part number for the ES electronics. Field will be missing if the information is not available or if the element is not installed.
es-revision		string optional	CPLD revision of the ES electronics, if applicable. This field will not be present if the information is not available, not implemented, or if the element is not installed.
es-swap-count	**[0..255]**	integer optional	Number of times, since last boot, that this ES electronics elements has been swapped. Will not be present if the element is not installed.
esh-list		esh-info[] optional	Information on attached embedded switched hub, if any.

Element definition: **eurologic-specific-info**

[top]

Vendor specific enclosure system information for Eurologic shelf.

Name	Range	Type	Description
eurologic-application-version		string	Application version for Eurologic shelf.
eurologic-backplane-byte		string	Backplane byte for Eurologic shelf.
eurologic-backplane-function		string	Backplane function for Eurologic shelf.
eurologic-backplane-id		string	Backplane identifier for Eurologic shelf.
eurologic-cabinet-id		string	Cabinet id for the Eurologic shelf.
eurologic-kernel-version		string	Kernel version for Eurologic shelf.
eurologic-serial-no		string optional	Serial number for the Eurologic shelf.

Element definition: **power-supply-info**

[top]

Power supply information

Name	Range	Type	Description
is-auto-power-reset-enabled		boolean optional	Indicates whether the auto power reset of the supply is enabled. This field will not be present if the power supply is missing.
is-power-reset-capable		boolean optional	Indicates whether the power supply can be reset via software control. This field will not be present if power supply is missing.
power-supply-element-number	**[0..255]**	integer	Element number the power supply.
power-supply-firmware-revision		string optional	Power supply firmware revision. This field will not be present if firmware rev is unavailable or feature not implemented, or if the power supply is missing.
power-supply-is-error		boolean optional	Indicates whether the power supply has reported any errors. This field will not be present if the power supply is missing.
power-supply-is-not-installed		boolean optional	Indicates the power supply for this element is not installed. This will only be presented if the power supply is missing, in which case no further information for the element will be available.
power-supply-part-no		string optional	Power supply part number. The field will not be present if part number is unavailable or not implemented or if the power supply is missing.
power-supply-serial-no		string optional	Power supply serial number. This field will not be present if the power supply is missing.
power-supply-swap-count	**[0..255]**	integer optional	Number of power supply swap counts since boot. This field will not be present if the power supply is missing.
power-supply-type		string optional	Power supply type. This field will not be present if power supply type is unavailable or feature is not implemented, or if the power supply is missing.

Element definition: **processor-complex-info**

[top]

Available information on the processor complex modules (PCMs) in the shelf.

Name	Range	Type	Description
is-pcm-element-error		boolean optional	Indicates if there has been a failure in the PCM. Will not be present if a PCM element is not installed.
is-pcm-element-not-installed		boolean optional	Indicates if PCM element has been installed. Will be present only if the element is not installed, in which case no further information will be provided.
pcm-element-no	**[1..2]**	integer	PCM element number

Element definition: **sas-specific-info**

[top]

Vendor specific enclosure system information for SAS shelf.

Name	Range	Type	Description
serial-no		string	Shelf backplane serial number.

Element definition: **ses-generic-info**

[top]

Generic SES (SCSI enclosure services) information.

Name	Range	Type	Description
ses-chassis-part-number		string optional	Chassis part number. The field will not be present if the part number is unavailable or not implemented.
ses-config-access		string optional	The method shelf configuration was obtained. Possible values: "via_embedded_ses", "via_scsi_from_shelf", "via_loop_from_shelf", "remote_access_via_controller", "not_available".
ses-config-access-controller-name		string optional	If the value of ses-config-access field is "remote_access_via_controller" then this field will return the name of storage controller the configuration was obtained from. This field will not be present if storage controller name is not available or if the value of ses-config-access field is not "remote_access_via_controller".
ses-config-access-shelf-id		string optional	If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the shelf id of the device the configuration was obtained from.
ses-config-access-source-id		integer optional	If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the SCSI or loop id of the device that the configuration was obtained from.
ses-contact-state		string	Enclosure contact state. Possible values are: "active", "initializing", "transitioning", "inactive", "reconfiguring", "non_existent".
ses-logical-id		string	Enclosure logical identifier.
ses-midplane-part-number		string optional	Enclosure midplane part number. The field will not be present if the midplane is not present.
ses-midplane-serial-number		string optional	Enclosure midplane serial number. The field will not be present if the midplane is not present.
ses-product-id		string optional	Enclosure product identifier. Not available on all shelf types.
ses-product-revision		string	Enclosure product revision.
ses-vendor-id		string	Enclosure vendor identifier.

Element definition: **shelf-drawer-bay**

[top]

The list of bays in the drawer that has a device.

Name	Range	Type	Description
attached-drawer-bay-list		string	A list of bay numbers in this shelf drawer that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list.
drawer-number	**[0..254]**	integer	The DCM number.

Element definition: **shelf-drawer-bay-error**

[top]

The list of bays in the drawer that has devices with error.

Name	Range	Type	Description
attached-drawer-bay-list-with-error		string	A list of bay numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list.
drawer-number	**[0..254]**	integer	The DCM number.

Element definition: **temp-sensor-info**

[top]

information on the temperature sensors installed in the shelf.

Name	Range	Type	Description
temp-sensor-current-condition		string optional	Current temperature condition for this sensor. One of: "under_temperature_warning", "under_temperature_failure", "over_temperature_warning", "over_temperature_failure", "normal_temperature_range".
temp-sensor-current-temperature	**[0..255]**	integer optional	Current temperature reading in degrees Celsius.
temp-sensor-element-no	**[0..255]**	integer	Element number for the temperature sensor.
temp-sensor-hi-critical	**[0..255]**	integer optional	High critical temperature in degree Celsius.
temp-sensor-hi-warning	**[0..255]**	integer optional	High warning temperature in degree Celsius.
temp-sensor-is-ambient		boolean optional	Indicates whether the temp-sensor-current-temp is the ambient temperature.
temp-sensor-is-error		boolean optional	Indicates whether the sensor has indicated an error in temperature.
temp-sensor-is-not-installed		boolean optional	Indicates the sensor for this element is not installed. This will only be presented if the sensor is missing, and no further data for this sensor will be presented.
temp-sensor-low-critical	**[0..255]**	integer optional	Low critical temperature in degree Celsius.
temp-sensor-low-warning	**[0..255]**	integer optional	Low warning temperature in degree Celsius.

Element definition: **voltage-sensor-info**

[top]

Presents the voltage sensor information, if implemented on the system.

Name	Range	Type	Description
is-sensor-error		boolean optional	Indicates whether the sensor has encountered an error.
is-sensor-not-installed		boolean optional	Indicates the voltage sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented.
sensor-condition		string optional	A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overvoltage_failure", "overvoltage_warning", "undervoltage_warning", "undervoltage_failure", "normal_operating_range".
sensor-reading		string optional	Voltage reading of the sensor. This field will be not be present if unable to read the sensor value properly.
voltage-sensor-no	**[1..20]**	integer	Voltage sensor number.

Element definition: **xyratex-specific-info**

[top]

Vendor specific enclosure system information for Xyratex shelf.

Name	Range	Type	Description
xyratex-option-setting		string	Option setting for the Xyratex shelf.
xyratex-serial-no		string	serial number for Xyratex shelf.

Element definition: **esh-info**

[top]

Information on individual ESH modules in the shelf.

Name	Range	Type	Description
esh-element-no	**[0..255]**	integer	ESH element number of installed ESH module
esh-is-error		string	Indicates whether the ESH module has reported any errors.

Element definition: **module-info**

[top]

Shelf enclosure module info.

Name	Range	Type	Description
is-module-error		boolean	Indicated whether this module has encountered an error.
is-sas-expander-master-module		boolean optional	When the value of enclosure-type field of enclosure-type-info is sas-expander-module, then this field indicates whether this module is the SAS expander master module. This field will only be present for sas-expander-module values.
module-connector-wwn		string optional	WWN of the module connector, example "500A0980017D373F".
module-number	**[0..1]**	integer	shelf module number.

Element definition: **sas-connector-info**

[top]

Detailed information on SAS cables and connectors connected to the shelf. Only information on the connectors with cables attached will be presented.

Name	Range	Type	Description
attached-serial-no		string optional	Serial number of the attached cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends.
cable-end-identifier		string optional	Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1".
cable-length		string optional	Cable length. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector.
cable-local-conn-wwn		string optional	WWN of the local connector that the cable is attached to, example "500A0980017D373F".
cable-manufacturer		string optional	Manufacturer of the cable. Will not be present if a cable is not connected at this connector.
cable-part-no		string optional	Part number of the cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector.
cable-remote-conn-wwn		string optional	WWN of the remote connector that the cable is attached to, example "300A0980052ED2B2".
cable-serial-no		string optional	This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-no. For the actual serial number see attached-serial-no. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device.
cable-technology		string optional	Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "cupper", "optical".
cable-type		string	Type of the cable being used. This field will not be present if the information is not available or accessible, or if a cable is not connected at this

		optional	connector. Possible values: "qsfp".
connector-designator		string optional	Connector desiagnator. • "sqr" - The port is marked with a square on the shelf connector panel, • "cir" - The port is marked with a circle on the shelf connector panel. Will be missing if unknown or not available.
connector-no	**[0..4]**	integer	Connector number.
is-cable-connected		boolean	Indicates whether a cable is connected at this connector location. No further information will be provided if a cable is not connected at this connector location. Note that a cable connection does not necessarily mean that the shelf is connected to a storage cointroller. This will also depend on the other end of the cable.
is-connector-error		boolean optional	Indicates whether the connector element has encountered an error.
shelf-module		string optional	Shelf module for this connector • "a" - Presenting data for shelf module A. • "b" - Presenting data for shelf module B.
swap-count	**[0..255]**	integer optional	Number of times, since last boot, a cable has been inserted into this connector

APIs in Category: **sis**

sis-disable
sis-disable-async
sis-enable
sis-enable-async
sis-get
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sis-policy-create
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sis-status
sis-stop
sis-stop-async

These APIs can be used to manage deduplication and compression on flexible volumes. In the following API descriptions, these space saving technologies are collectively referred to as "sis".

A "sis volume" refers to a flexible volume on which deduplication and/or compression has been enabled. It can also refer to volumes where deduplication and/or compression are currently disabled (say, temporarily), but the volume has compressed and/or shared data. Currently, compression can be enabled on a volume, only when deduplication is also enabled on the volume.

A "sis operation" refers to a background operation that is running on a volume to deduplicate and/or compress data in the volume.

In future, the sis APIs may be extended to support other storage entities like aggregates. Hence, all sis APIs accept a "path" argument instead of a volume name.

sis-disable

[top]

Disable sis on a volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop" API before disabling.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
path		string	The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time.

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Vfiler-enabled
Yes

sis-disable-async

[top]

Disable sis on a FlexGroup or an Infinite Volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop-async" API before disabling.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
volume-name		string	Name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-enable

[top]

Enable sis on a volume.

On a non-SnapVault secondary volume, the sis operation will be started periodically according to a per-volume schedule. By default, this schedule is sun-sat@0. (Everyday at 0:00 hours) On a SnapVault secondary volume, the sis operation will be kicked off at the end of the SnapVault transfer. This API does not enable compression on the volume. See the "sis-set-config" API for options to enable compression and for modifying the default schedule set on the volume. A sis operation can also be manually started using the sis-start API.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
path		string	The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online to enable sis on the volume.

Errno	Description
EAPIMISSINGARGUMENT	
EAPIERROR	
EONTAPI_EINVAL	
EINTERNALERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILE	

Vfiler-enabled
Yes

sis-enable-async

[top]

Enable sis on a FlexGroup or an Infinite Volume.

This is similar to 'sis-enable' API except that it operates on a FlexGroup or Infinite Volume. Read about 'sis-enable' API for specific details.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
volume-name		string	Name of the volume. The volume must be online to enable sis.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EAPIERROR	
EONTAPI_EINVAL	
EINTERNALERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-get

[top]

Get status of a sis volume.

This API is not supported on Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
desired-attributes		sis-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
path		volume-path	Volume for which sis information is returned. Path is of the format /vol/<vol_name>.

Output Name	Range	Type	Description
attributes		sis-status-info	The attributes to return with this call.

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-get-iter

[top]

Iterate over a list of sis volumes.

This API is not supported on Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
desired-attributes		sis-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call.
query		sis-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes. All sis objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sis-status-info[] optional	The list of attributes of sis objects.
next-tag		string optional	Tag for the next call. Not present when there are no more sis objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-create

[top]

Create a new sis policy.

Input Name	Range	Type	Description
changelog-threshold-percent	**[0..100]**	integer optional	Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour.
comment		string optional	A brief description of the policy.
duration		string optional	The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. Otherwise, the duration has to be an integer greater than 0. By default, the operation runs till it completes.
			If the value is true, the sis policy is active in this cluster. If the value is

enabled		boolean optional	false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. Default value: "true"
policy-name		string	sis policy name.
policy-type		string optional	The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.) • "threshold" - Changelog processing occurs once the changelog reaches a certain percent full. • "scheduled" - Changelog processing will be triggered by time. Default value: "scheduled"
qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
schedule		string optional	Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-delete

[top]

Delete a sis policy.

Input Name	Range	Type	Description
policy-name		string	sis policy name.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-get

[top]

Get attributes of a sis policy.

Input Name	Range	Type	Description
desired-attributes		sis-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		string	sis policy name.

Output Name	Range	Type	Description
attributes		sis-policy-info	The attributes of the sis-policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-get-iter

[top]

Iterate over a list of sis policy objects.

Input Name	Range	Type	Description
desired-attributes		sis-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call.
query		sis-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the sis policy. All sis policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sis-policy-info[] optional	The list of attributes of sis policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more sis policy objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-policy-modify

[top]

Modify the attributes of a sis policy.

Input Name	Range	Type	Description
changelog-threshold-percent	**[0..100]**	integer optional	Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour.
comment		string optional	A brief description of the policy. If a value is not provided the current settings are retained. An empty string can be used to clear the current settings.
duration		string optional	The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. If duration is not provided the current setting is not modified.
enabled		boolean optional	If the value is true, the sis policy is active in this cluster. If the value is false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. If the value is not specified, the current settings are retained.
policy-name		string	sis policy name. Attributes: key, non-modifiable
policy-type		string optional	The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.) • "threshold" - Changelog processing occurs when the changelog reaches a certain percent full. • "scheduled" - Clog processing will be triggered by time.
qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
schedule		string optional	Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. If this field is not set, the existing value is not modified.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

sis-set-config

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
application-io-size		string optional	Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and inactive data will be compressed at 32K size later automatically in background.
compression-algorithm		string optional	Specifies the compression algorithm on volume. Possible values: • 0 - none • 1 - lzopro • 2 - gzip • 3 - lzrw1a
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
enable-compression		boolean optional	Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged. Enabling compression on a secondary volume is strongly discouraged. If compression is enabled on a secondary volume, storage efficiency present on the source will not be preserved during replication. The destination system needs to run offline storage efficiency scanner (compression and dedupe) to achieve storage savings. Additional compression savings on the destination comes at a cost of extra computation resources. In environments where there is a lot of shared data present on the source, (e.g., virtualized environments employing file clones), data inflation during transfer may lead to failed backups due to lack of space on the secondary volume.
enable-cross-volume-background-dedupe		boolean optional	Enable cross volume background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged.
enable-cross-		boolean	Enable cross volume inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume.

volume-inline-dedupe		optional	If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged.
enable-data-compaction		boolean optional	Enable data compaction on the sis volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged.
enable-idd		boolean optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'.
enable-inline-compression		boolean optional	Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged.
enable-inline-dedupe		boolean optional	Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged.
path		string	The full path of the sis volume, /vol/<vol_name>.
policy-name		string optional	The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous schedule set on the volume is automatically reset.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression.
		string	The schedule string for the sis operation. The format of the schedule: day_list[@hour_list] or hour_list[@day_list] or - or auto or manual The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat. The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list

schedule		optional	is 0, i.e. midnight on the morning of each scheduled day. If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset. The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later. The "manual" schedule string prevents SIS from automatically triggering any operations and disables change-logging. This schedule string can only be used on SnapVault destination volumes. The use of this schedule is mainly desirable when inline compression is enabled on a SnapVault destination volume and background processing is not necessary.
storage-efficiency-mode		string optional	Specifies the efficiency mode for the volume. default value will set 8K adaptive compression on the volume. efficient will set auto adaptive compresion on the volume. Possible values: • 1 - default • 2 - efficient

Errno
EAPIMISSINGARGUMENT
EONTAPI_EINVAL
EAPIERROR
EVOLUMENOTONLINE
EOBJECTNOTFOUND
EVSERVERNOTFOUND
EVSERVER_OP_NOT_ALLOWED
EINVALIDINPUTERROR
EVOLUME_TYPE_NOT_SUPPORTED
E_OLV_FG_EFFICIENCY_OP_FAILED

Vfiler-enabled
Yes

sis-set-config-async

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
application-		string	Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If

io-size		optional	application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and incative data will be compressed at 32K size later automatically in background.
compression-algorithm		string optional	Specifies the compression algorithm on volume. Possible values: • 0 - none • 1 - lzopro • 2 - gzip • 3 - lzrw1a
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
enable-compression		boolean optional	Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged.
enable-cross-volume-background-dedupe		boolean optional	Enable background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged.
enable-cross-volume-inline-dedupe		boolean optional	Enable inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume. If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged.
enable-data-compaction		boolean optional	Enable data compaction on the volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged.
enable-idd		boolean optional	This parameter is no longer suppported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'.
enable-inline-compression		boolean optional	Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged.
enable-inline-dedupe		boolean optional	Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged.
policy-name		string optional	The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. The policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous

			schedule set on the volume is automatically reset.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression.
schedule		string optional	The schedule string for the sis operation. The format of the schedule: day_list[@hour_list] or hour_list[@day_list] or - or auto or manual The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat. The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list is 0, i.e. midnight on the morning of each scheduled day. If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset. The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later. If "manual" is specified, sis operation will never be triggered automatically. Only the user can manually execute the sis operation.
volume-name		string	Name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	

EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-start

[top]

Start a sis operation on a volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
build-metadata		boolean optional	If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default value: "false"
delete-checkpoint		boolean optional	If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false"
path		string	The full path of the sis volume, /vol/<vol_name>. The volume must be online in order to start the sis operation.
qos-policy		string optional	QoS policy for the sis operation. Possible values are: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
queue-operation		boolean optional	If this is "true", the requested sis operation will be queued if a sis operation is already running on the volume, and the running operation is in the fingerprint verification phase. Default value: "false"
restart-checkpoint		boolean optional	If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false"
run-compaction-scan		boolean optional	If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false"
scan		boolean optional	If this is "true", the sis operation will scan the file system to process all the existing data. The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters. If scan is false only data added since the last sis operation will be processed. Default value: "false"
scan-all		boolean optional	If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter

			for more details. Default value: "false"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMEBUSY	
EVOLUMENOTONLINE	
EDENSE_CONCURRENT_LIMIT	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EDENSE_DROPPED_AUTO	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Vfiler-enabled
Yes

sis-start-async

[top]

Start a sis operation on FlexGroup or an Infinite Volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
build-metadata		boolean optional	If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false"
delete-checkpoint		boolean optional	If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false"
qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background with minimal or no impact on data serving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Default value: "best-effort"
queue-operation		boolean optional	If this is "true", the requested sis operation will be queued if a sis operation is already running on the Infinite Volume, and the running operation is in the fingerprint verification phase. Default value: "false"
restart-checkpoint		boolean optional	If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false"

run-compaction-scan		boolean optional	If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false"
scan		boolean optional	If this is "true", the sis operation will scan the file system to process all the existing data. The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters. If scan is false only data added since the last sis operation will be processed. Default value: "false"
scan-all		boolean optional	If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false"
volume-name		string	The name of the volume. The volume must be online in order to start the sis operation.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMEBUSY	
EVOLUMENOTONLINE	
EDENSE_CONCURRENT_LIMIT	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

sis-status

[top]

Get Status of a sis volume This API is not optimal for use in Data ONTAP Cluster-Mode systems, and is

deprecated. Use sis-get and sis-get-iter APIs for Data ONTAP Cluster Mode systems. This API is still supported for Data ONTAP 7-Mode systems.

Input Name	Range	Type	Description
path		string optional	The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online if not then an error will be returned. If path variable is not used then the status for all online sis volumes in the filer will be returned.
verbose		boolean optional	If set to true the output is detailed. Default value: "false"

Output Name	Range	Type	Description
sis-object		dense-status[]	sis status objects returned.

Errno	Description
EAPIMISSINGARGUMENT	
EAPIERROR	
EONTAPI_EINVAL	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

sis-stop

[top]

Abort currently active sis operation on the volume. The sis operation will remain paused and the operation can be resumed by "sis-start", SnapVault transfer, or the scheduler.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
all-operations		boolean optional	If this is "true", both active and queued sis operation will be stopped. Default value: "false"
path		string	The full path of the sis volume, /vol/<vol_name>.

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	

EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Vfiler-enabled
Yes

sis-stop-async

[top]

Abort currently active sis operation on the FlexGroup or Infinite Volume. The sis operation will remain paused and the operation can be resumed by "sis-start-async" or the scheduler.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

Input Name	Range	Type	Description
all-operations		boolean optional	If this is "true", both active and queued sis operation will be stopped. Default value: "false"
volume-name		string	The name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: • "succeeded", • "in_progress", • "failed"

Errno	Description
EAPIMISSINGARGUMENT	
EONTAPI_EINVAL	
EAPIERROR	
EVOLUMENOTONLINE	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FG_EFFICIENCY_OP_FAILED	

Element definition: **dense-status**

[top]

Name	Range	Type	Description
application-io-size		string optional	Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable.
auto-state		string	Possible values: • "Not auto" - Auto is not enabled, • "Auto" - Auto policy is enabled, • "Deprioritized" - Volume is deprioritized
blocks-skipped-sharing	**[0..2^32-1]**	integer optional	Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
changelog-used-percent	**[0..2^32-1]**	integer optional	Percentage of changelog used. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
checkpoint-op-type		string optional	Checkpoint Operation Type. Possible values: • "-", • "Scan", • "Start", • "Check", • "Undo", • "Downgrade" Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
checkpoint-progress		string optional	Checkpoint Stage Progress with information as to which stage of sis is checkpointed and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
checkpoint-stage		string optional	Checkpoint Stage information. Possible values: • "-", • "Gathering", • "Sorting", • "Saving_pass1", • "Saving_pass2", • "Checking", • "Checking_pass1", • "Checking_pass2", • "Compress_preproc", • "Compressing", • "Saving_sharing", • "Saving_end", • "Unknown_stage" Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
			Checkpoint Sub Stage information. Possible values: • "-", • "Sort_pass1", • "Sort_p1merge",

checkpoint-sub-stage		string optional	"Sort_pass2", • "Bucket_sort_init", • "Bucket_sort", • "Bucket_sort_done" Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
checkpoint-time	**[0..2^63-1]**	integer optional	Checkpoint creation timestamp. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes.
compression-algorithm		string optional	Specifies the algorithm used for compression. Possible values: • 0 - none • 1 - lzopro • 2 - gzip 3 - lzrw1a Attributes: non-creatable, non-modifiable.
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
has-cross-volume-sharing		boolean optional	Volume has cross volume sharing Attributes: non-creatable, non-modifiable
has-extended-compressed-data		boolean optional	Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable
is-compression-enabled		boolean optional	compression state of the volume Attributes: non-creatable, non-modifiable
is-content-available		boolean	This indicates if the value of other elements in this dense-status object are valid. Attributes: non-creatable, non-modifiable This parameter is not supported on Infinite Volumes. A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume.
is-cross-volume-background-dedupe-enabled		boolean optional	Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable
is-cross-volume-inline-dedupe-enabled		boolean optional	Cross volume inline deduplication state of the volume Attributes: non-creatable, non-modifiable
is-data-compaction-enabled		boolean optional	Data compaction state of the volume Attributes: non-creatable, non-modifiable
			This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values:

is-idd-enabled		boolean optional	"true", • "false" Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes.
is-inline-compression-enabled		boolean optional	inline compression state of the volume Attributes: non-creatable, non-modifiable
is-inline-dedupe-enabled		boolean optional	Inline deduplication state of the volume Attributes: non-creatable, non-modifiable
last-operation-begin-timestamp	**[0..2^31-1]**	integer optional	Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-end-timestamp	**[0..2^31-1]**	integer optional	End timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-error		string optional	A human readable error message of the last sis operation. Present when there was an error. Returned only if verbose option is set. and when there is a valid error. This parameter is not supported on Infinite Volumes.
last-operation-size		string optional	The size of the last sis operation in human readable format. This output element is deprecated in Data ONTAP 8.1. Please use the last-operation-size-bytes output element instead. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-size-bytes	**[0..2^63-1]**	integer optional	The size in bytes of the last sis operation. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
last-operation-state		string optional	Completion status for the last operation. Possible values: • "success", • "failure" Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes.
last-success-operation-begin-timestamp	**[0..2^31-1]**	integer optional	Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
last-success-operation-end-timestamp	**[0..2^31-1]**	integer optional	End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
logical-data		sis-logical-data	This contains logical size attributes of a volume. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.

		optional	
minimum-blocks-shared	**[0..2^32-1]**	integer optional	The minimum number of contiguous blocks in a file that will be considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing. Returned only if verbose option is set.
path		string	Volume for which sis information is returned.
policy		string optional	sis policy name. Returned only if verbose option is set.
progress		string	The progress of the current sis operation with information as to which stage is currently in progress and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes.
queued-job-type		string optional	Type of sis operation that is queued for the volume. Possible values: • "-" - No sis operation is queued for the volume, • "Scan", • "Start", • "Check", • "Downgrade" Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes.
schedule		string optional	The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Returned only if verbose option is set.
stale-fingerprint-percentage	**[0..2^32-1]**	integer optional	Percentage of fingerprints that are stale in the fingerprint database. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
state		string	Possible values: • "Enabled", • "Disabled", • "Mixed" -For FlexGroups, if sis is not Enabled or Disabled consistently across all constituents.
status		string	Possible values: • "Idle" - No sis operations are happening on this volume, • "Initializing" - sis operation is being initialized, • "Active" - sis operation is active on the volume, • "Undoing" - sis is being undone on the volume, • "Pending" - sis operations are scheduled for the volume, • "Downgrading" - The sis operation necessary to downgrade the volume is active, • "Disabled" - sis operation is disabled on the volume. This parameter is not supported on Infinite Volumes.
type		string optional	Possible values: • "Regular", • "SnapVault" Any sis volume with Snapvault qtree in it would be marked as

			Snapvault and all others would be returned as type Regular. Returned only if verbose option is set.
vserver		vserver-name optional	Vserver Name

Element definition: **sis-policy-info**

[top]

sis-policy-info typedef When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
changelog-threshold-percent	**[0..100]**	integer optional	Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. Attributes: optional-for-create, modifiable
comment		string optional	A brief description of the policy. Attributes: optional-for-create, modifiable
duration		string optional	The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If there is no duration set on the volume, the operation will run till it completes. Attributes: optional-for-create, modifiable
enabled		boolean optional	If the value is true, the sis policy is active and sis operations will be triggered on the volume on the specified schedule. If the value is false, the sis policy will be inactive and sis operations will not be triggered on the volume on the specified schedule. Attributes: optional-for-create, modifiable
policy-name		string optional	sis policy name. Attributes: key, required-for-create, non-modifiable
policy-owner		string optional	Owner of the policy. Possible values: • "cluster_admin" - Policy is owned by the cluster admin. This policy can be applied to volumes owned by any Vserver. • "vserver_admin" - Policy is owned by the Vserver admin. This policy can only be applied to volumes owned by the same Vserver.
policy-type		string optional	The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.) • "threshold" - Changelog processing occurs once the changelog reaches a certain percent full. • "scheduled" - Clog processing will be triggered by time. • Attributes: optional-for-create, modifiable

qos-policy		string optional	QoS policy for the sis operation. Possible values: • "background" - sis operation will run in background, with minimal or no impact on data aserving client operations, • "best-effort" - sis operations may have some impact on data serving client operations. Attributes: optional-for-create, modifiable
schedule		string optional	Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API. Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver name. Attributes: key, non-creatable, non-modifiable

Element definition: **sis-status-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
application-io-size		string optional	Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable.
auto-state		string optional	Possible values: • "Not auto" - Auto is not enabled, • "Auto" - Auto policy is enabled, • "Deprioritized" - Volume is deprioritized
blocks-skipped-sharing	**[0..2^32-1]**	integer optional	Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. This parameter is not supported on Infinite Volumes.
changelog-size	**[0..2^64-1]**	integer optional	Size of changelog in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
changelog-used-percent	**[0..2^32-1]**	integer optional	Percentage of changelog used. This parameter is not supported on Infinite Volumes.
checkpoint-op-type		sis-checkpoint-op-type optional	Checkpoint operation Type. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "Scan" - Scanning volume for fingerprints, • "Start" - Starting a sis operation, • "Check" - Checking for stale data in the fingerprint database,

			"Undo" - Undoing sis on the volume, • "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release.
checkpoint-progress		string optional	Checkpoint Stage Progress with information as to which stage of deduplication is checkpointed and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
checkpoint-stage		sis-checkpoint-stage optional	Checkpoint stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "Gathering" - Scanning the volume for fingerprints, • "Sorting" - Sorting the gathered fingerprints, • "Compress_preproc" - Preprocessing volume data for compression, • "Compressing" - Compressing the volume data, • "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints, • "Saving_pass2" - Creating duplicate list from the fingerprint database, • "Saving_sharing" - Creating shared data structures in the volume, • "Saving_end" - Completing sis operations, • "Checking_pass0" - Organizing data in the fingerprint database for block sharing, • "Checking_pass1" - Organizing data in the fingerprint database for block sharing, • "Checking_pass2" - Organizing data in the fingerprint database for block sharing, • "Unknown_stage" - Invalid stage
checkpoint-sub-stage		sis-checkpoint-substage optional	Checkpoint sub-stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "-" - No sub stage check point present, • "Sort_pass1" - Sorting the fingerprints for deduplication, • "Sort_p1merge" - Merging the fingerprints for deduplication, • "Sort_pass2" - Merging the fingerprints for deduplication, • "Bucket_sort_init" - Sorting the fingerprints for deduplication, • "Bucket_sort" - Sorting the fingerprints for deduplication, • "Bucket_sort_done" - Sorting the fingerprints for deduplication completed
checkpoint-time	**[0..2^63-1]**	integer optional	Checkpoint creation timestamp. The value is in seconds since January 1, 1970. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
compression-algorithm		string optional	Specifies the algorithm used for compression. Possible values: • 0 - none • 1 - lzopro • 2 - gzip • 3 - lzrw1a Attributes: non-creatable, non-modifiable.
compression-	**[0..2^64-**	integer	Size of compression log in bytes. Returned only if verbose option

changelog-size	**1]**	optional	is set. This parameter is not supported on Infinite Volumes.
compression-type		string optional	Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable.
file-compression-application-io-size		string optional	Specifies the last application IO size used by compression. Possible values: "8K", "16K", "32K", "-". Attributes: non-creatable, non-modifiable.
has-auto-adaptive-compression-savings		boolean optional	Volume has auto adaptive compression savings Attributes: non-creatable, non-modifiable
has-extended-compressed-data		boolean optional	Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable
is-auto-adaptive-compression-existing-volume		boolean optional	Auto adaptive compression state of already existing volume Attributes: non-creatable, non-modifiable
is-compression-enabled		boolean optional	Compression state of the volume Attributes: non-creatable, modifiable
is-constituent		boolean optional	True implies that the volume is a constituent of an Infinite Volume.
is-content-available		boolean optional	When returned as part of the output, this indicates if the value of other elements in this sis-info object are valid. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume. Default: true
is-cross-volume-background-dedupe-enabled		boolean optional	Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable
is-cross-volume-inline-dedupe-enabled		boolean optional	Cross volume Inline deduplication state of the volume Attributes: non-creatable, non-modifiable
is-data-compaction-enabled		boolean optional	Data compaction state of the volume Attributes: non-creatable, non-modifiable
			This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values: • "true", • "false"

is-idd-enabled		boolean optional	Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes.
is-inline-compression-enabled		boolean optional	Inline compression state of the volume Attributes: non-creatable, modifiable
is-inline-dedupe-enabled		boolean optional	Inline deduplication state of the volume Attributes: non-creatable, non-modifiable
is-using-auto-adaptive-compression		boolean optional	Auto adaptive compression state of volume Attributes: non-creatable, non-modifiable
last-op-begin-timestamp	**[0..2^63-1]**	integer optional	Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is requested. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-end-timestamp	**[0..2^63-1]**	integer optional	End timestamp of the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-error		string optional	A human readable error message of the last sis operation. Present when there was an error. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-size		size optional	The amount of data processed in bytes for the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
last-op-state		string optional	Completion status for the last operation. Possible values: • "success", • "failure" Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes.
last-success-op-begin-timestamp	**[0..2^31-1]**	integer optional	Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
last-success-op-end-timestamp	**[0..2^31-1]**	integer optional	End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes.
logical-data-limit	**[0..2^63-1]**	integer optional	Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes.
logical-data-size	**[0..2^63-1]**	integer optional	The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + + compressed-data bytes]. This parameter is not supported on Infinite Volumes.
minimum-			The minimum number of contiguous blocks in a file that will be

blocks-shared	**[0..2^32-1]**	integer optional	considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing.
path		volume-path optional	Volume for which sis information is returned. Path is of the format /vol/<vol_name>. Attributes: key, non-creatable, non-modifiable
policy		string optional	sis policy name. Attributes: non-creatable, modifiable
progress		string optional	The progress of the current sis operation with information as to which stage of sis process is currently in progress and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
queued-job-type		string optional	Type of sis operation that is queued for the volume. Possible values: • "-" - No sis operation is queued for the volume, • "Scan", • "Start", • "Check", • "Downgrade" This parameter is not supported on Infinite Volumes.
quick-check-fsize	**[0..2^64-1]**	integer optional	This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes.
schedule		string optional	The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Attributes: non-creatable, modifiable
stale-fingerprint-percentage	**[0..2^32-1]**	integer optional	Percentage of fingerprints that are stale in the fingerprint database. This parameter is not supported on Infinite Volumes.
state		sis-state optional	State of sis configured on the volume. Attributes: non-creatable, non-modifiable Possible values: • "Disabled", • "Enabled"
status		sis-op-status optional	Status of any sis operation running on the volume. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values: • "Idle" - No sis operations are happening on this volume, • "Initializing" - sis operation is being initialized, • "Active" - sis operation is active on the volume, • "Undoing" - sis is being undone on the volume, • "Pending" - sis operations are scheduled for the volume, • "Downgrading" - The sis operation necessary to downgrade the volume is active, • "Disabled" - sis operation is disabled on the volume.
storage-efficiency-mode		string optional	Storage efficiency mode of the volume Possible values: "default", "efficienct", "-". Attributes: non-creatable, non-modifiable.
			Any sis volume with Snapvault qtree in it would be marked as

type		sis-type optional	Snapvault and all others would be returned as type Regular. Attributes: non-creatable, non-modifiable Possible values: • "Regular" , • "Snapvault"
vault-transfer-log-size	**[0..2^64-1]**	integer optional	Size of vault transfer log in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes.
vserver		vserver-name optional	A string identifying the Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **volume-path**

[top]

Volume path name

[none]

Element definition: **sis-checkpoint-op-type**

[top]

sis checkpoint type Possible values:

- "Scan" - Scanning volume for fingerprints,
- "Start" - Starting a sis operation,
- "Check" - Checking for stale data in the fingerprint database,
- "Undo" - Undoing sis on the volume,
- "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release.

[none]

Element definition: **sis-checkpoint-stage**

[top]

sis checkpoint stage Possible values:

- "Gathering" - Scanning the volume for fingerprints,
- "Sorting" - Sorting the gathered fingerprints,
- "Compress_preproc" - Preprocessing volume data for compression,
- "Compressing" - Compressing the volume data,
- "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints,
- "Saving_pass2" - Creating duplicate list from the fingerprint database,
- "Saving_sharing" - Creating shared data structures in the volume,
- "Saving_end" - Completing sis operations,
- "Checking_pass0" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass1" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass2" - Organizing data in the fingerprint database for block sharing,
- "Unknown_stage" - Invalid stage

[none]

Element definition: **sis-checkpoint-substage** [top]

sis checkpoint sub-stage Possible values:

- "Sort_pass2" - Sorting the fingerprints for deduplication

[none]

Element definition: **sis-logical-data** [top]

This contains logical size attributes of a volume.

Name	Range	Type	Description
logical-data-limit	**[0..2^63-1]**	integer	Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes.
logical-data-size	**[0..2^63-1]**	integer	The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + compressed-data bytes]. This parameter is not supported on Infinite Volumes.

Element definition: **sis-op-status** [top]

Efficiency status Possible values:

- "idle" - No storage efficiency operations are happening on this volume,
- "initializing" - The storage efficiency operation is being initialized,
- "active" - The storage efficiency operation is active on the volume,
- "undoing" - The storage efficiency is being undone on the volume,
- "pending" - The storage efficiency operation is scheduled for the volume,
- "downgrading" - Storage efficiency actions necessary to downgrade the volume are being carried out,
- "disabled" - Storage efficiency disabled on the volume

[none]

Element definition: **sis-state** [top]

Disabled|Enabled|Mixed Possible values:

- "disabled" ,
- "enabled" ,

- "mixed" - For FlexGroups, if SIS is not enabled or disabled consistently across all constituents,
- "custom" - Only supported on FSx for ONTAP and Cloud Volumes ONTAP, denotes user-defined efficiency features are enabled

[none]

Element definition: **sis-type**

[top]

Regular|SnapVault Possible values:

- "regular" ,
- "snapvault"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **snapdiff**

snapdiff-rpc-server-create
snapdiff-rpc-server-destroy
snapdiff-rpc-server-disable
snapdiff-rpc-server-enable
snapdiff-rpc-server-get
snapdiff-rpc-server-get-create-defaults
snapdiff-rpc-server-get-iter
snapdiff-rpc-server-modify

This set of functions is used to retrieve the set of changed files and directory entries between two snapshots for the same volume. The difference operation will scan the two snapshots and return a list of files and directory entries that have changed since the base snapshot. It will indicate files created, modified, or deleted. The basic sequence is:

1. snapdiff-iter-start
2. snapdiff-iter-status (repeated until session status is in active state)
3. snapdiff-iter-next (repeated until 100% of changes are retrieved or an error is returned. snapdiff-iter-end is the next function expected from the client when either of these conditions occur.)
4. snapdiff-iter-end

Snapdiff APIs require the volume to have Inode to Path(I2P) option turned on.

snapdiff-rpc-server-create

[top]

Create a new SnapDiff RPC Server configuration.

Input Name	Range	Type	Description
return-record		boolean optional	If set to true, returns the SnapDiff RPC Server on successful creation. Default: false
state		boolean	Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true.

Output Name	Range	Type	Description
result		sd-info optional	The SnapDiff RPC Server created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapdiff-rpc-server-destroy

[top]

Delete an SnapDiff RPC Server configuration.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapdiff-rpc-server-disable

[top]

Stop the SnapDiff RPC Server

Errno	Description
EINTERNALERROR	

snapdiff-rpc-server-enable

[top]

Start the SnapDiff RPC Server

Errno	Description
EINTERNALERROR	

snapdiff-rpc-server-get

[top]

Get the SnapDiff RPC Server configuration.

Input Name	Range	Type	Description
desired-attributes		sd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		sd-info	The attributes of the SnapDiff RPC Server.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapdiff-rpc-server-get-create-defaults

[top]

Obtain the default values for SnapDiff RPC Server configuration.

Input Name	Range	Type	Description
attributes		sd-info optional	Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute.

Output Name	Range	Type	Description
defaults		sd-info	The default attributes for the SnapDiff RPC Server.

snapdiff-rpc-server-get-iter

[top]

Iterate over the list of SnapDiff RPC Server configurations.

Input Name	Range	Type	Description
desired-attributes		sd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		sd-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the SnapDiff RPC Server object. All SnapDiff RPC Server objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		sd-info[] optional	The list of attributes of SnapDiff RPC Server objects.
next-tag		string optional	Tag for the next call. Not present when there are no more SnapDiff RPC Server objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapdiff-rpc-server-modify

[top]

Modify an SnapDiff RPC Server configuration. If no values are given, the configuration is not modified.

Input Name	Range	Type	Description
state		boolean optional	Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **sd-info**

[top]

Information about SnapDiff RPC Server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
state		boolean optional	Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. Attributes: required-for-create, modifiable
vserver		string optional	Specifies the name of the Vserver Attributes: key, non-creatable, non-modifiable

APIs in Category: **snaplock**

file-get-snaplock-retention-time
file-get-snaplock-retention-time-list-info-max
file-set-snaplock-retention-time
file-snaplock-retention-time-list-info
snaplock-archive-vserver-log
snaplock-create-vserver-log
snaplock-destroy-vserver-log
snaplock-download-check-version
snaplock-event-retention-abort
snaplock-event-retention-apply-start
snaplock-event-retention-get-iter
snaplock-event-retention-policy-create
snaplock-event-retention-policy-destroy
snaplock-event-retention-policy-get-iter
snaplock-event-retention-policy-modify
snaplock-file-privileged-delete
snaplock-get-clock-ntp-sync
snaplock-get-compliance-clock
snaplock-get-file-retention
snaplock-get-node-compliance-clock
snaplock-get-system-compliance-clock
snaplock-get-volume-compliance-clock
snaplock-get-vserver-active-log-files-iter
snaplock-get-vserver-log-iter
snaplock-legal-hold-abort
snaplock-legal-hold-begin-start
snaplock-legal-hold-dump-files-start
snaplock-legal-hold-dump-litigations-start
snaplock-legal-hold-end-start
snaplock-legal-hold-get-iter
snaplock-modify-clock-ntp-sync
snaplock-modify-vserver-log
snaplock-set-file-retention
snaplock-set-node-compliance-clock
snaplock-set-system-compliance-clock
snaplock-volume-set-privileged-delete
volume-get-snaplock-attrs
volume-set-snaplock-attrs

file-get-snaplock-retention-time

[top]

Get the SnapLock retention attributes of a file.

Input Name	Range	Type	Description
path		string	Absolute path of the file to query. The value must be prefixed with

			"/vol/".

Output Name	Range	Type	Description
retention-time		integer	Retention time in seconds since 01/01/1970 00:00:00. A zero value indicates that the file is not in WORM state. Range: [0..2^64-1]

Errno	Description
EONTAPI_ENXIO	
EONTAPI_EIO	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVOLUMEOFFLINE	
EFILENOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMEQUIESCED	
EINTERNALERROR	

Vfiler-enabled
Yes

file-get-snaplock-retention-time-list-info-max

[top]

Get the maximum number of entries that can be processed and returned in one call to the zapi file-snaplock-retention-time-list-info.

Output Name	Range	Type	Description
max-list-entries		integer	The maximum number of pathnames that can be processed in one call to file-snaplock-retention-time-list-info. This limit is imposed to prevent taking up too much CPU/memory for a ZAPI call. If the number of input pathnames for file-snaplock-retention-time-list-info is more than this number, it returns the error EAPITOOMANYENTRIES. Range: [0..2^64-1]

Vfiler-enabled
Yes

file-set-snaplock-retention-time

[top]

Set the SnapLock retention attributes of a file. In some cases, even if the call to file-set-snaplock-retention-time fails (that is the file could not be committed to worm successfully), it is possible that the atime of the file would be modified. One can specify either only retention-time or only set-infinite-retention or only set-unspecified-retention for a given file path while calling this api. If neither the retention-time nor set-infinite-retention is specified, the file is committed to worm as read-only. If the expiry time of the file has been set explicitly, the expiry time is the atime of the file, otherwise the expiry time is calculated using the default retention of the volume as follows: Expiry time = current time + snaplock_default_period

Input Name	Range	Type	Description
path		string	Absolute path of the file. The value must be prefixed with "/vol/<volume-name>".
retention-time	**[0..2^63-1]**	integer optional	Expiry time in seconds since 01-Jan-1970 00:00:00 at which time the file will be eligible for deletion. If the expiry time specified does not comply with the snaplock_minimum_period and snaplock_maximum_period of the volume, the expiry time will be increased or decreased to do so.
set-infinite-retention		boolean optional	Indicates if the retention period on the file needs to be set or extended to the infinite retention period. This field is available in Data ONTAP 8.1 and later. Default is false.
set-unspecified-retention		boolean optional	Indicates if the retention period on the file needs to be set to the 'unspecified' retention period. This field is available in Data ONTAP 9.8 and later. Default is false.

Errno	Description
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_ERANGE	
EONTAPI_ENXIO	
EONTAPI_EIO	
EVOLUMEOFFLINE	
EFILENOTFOUND	
EVOLUMEDOESNOTEXIST	
EVOLUMEQUIESCED	
EINTERNALERROR	

Vfiler-enabled
Yes

file-snaplock-retention-time-list-info

[top]

Get the Snaplock retention attributes for a list of files.

Input Name	Range	Type	Description
pathnames		snaplock-pathname-info[]	List of pathnames to query. The function returns the file-retention-information for each of these pathnames. If this ZAPI function is called without any input parameter, the error EAPIMISSINGARGUMENT is returned If number of input pathnames exceeds max-list-entries an error of EAPITOOMANYENTRIES is returned. The value of max-list-entries can be retrieved using the zapi call file-get-snaplock-retention-time-list-info-max.

Output Name	Range	Type	Description
file-retention-details		file-retention-info[]	information about retention period for each file in the list

Errno	Description
EAPIMISSINGARGUMENT	

EAPITOOMANYENTRIES	

Vfiler-enabled
Yes

snaplock-archive-vserver-log

[top]

Archive the active worm log file. This will close the current log file for furthur updates and it will open a new log file to write future log updates A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
base-name		string optional	Base Name of Log File

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_NOT_CONFIGURED	

snaplock-create-vserver-log

[top]

Create audit log configuration for a Vserver.

Input Name	Range	Type	Description
default-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are : • 'seconds' • 'minutes' • 'hours' • 'days' • 'months'

			• 'years' For example, a value if **6months** represents a retention period of 6 months.
max-log-size		size optional	Max log file size (in bytes).
volume		volume-name	Log Volume Name

Output Name	Range	Type	Description
result		snaplock-vserver-log-config optional	The snaplock created (keys or the entire object if requested)
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this snaplock.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_ALREADY_CONFIGURED	
E_AUDIT_LOG_VOL_NOT_SLC	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
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snaplock-destroy-vserver-log

[top]

Delete audit log configuration for a Vserver.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	

E_AUDIT_LOG_ALREADY_CONFIGURED
EVSERVER_LOCKED_FOR_BASELINE
EVSERVER_OPERATION_NOT_PERMITTED

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snaplock-download-check-version

[top]

Check version being downloaded for snaplock compliance.

Input Name	Range	Type	Description
version		string	The version of the kernel being installed

snaplock-event-retention-abort

[top]

The snaplock-event-retention-abort API can be used to abort an ongoing Event Based Retention operation. This API only aborts operations that have started and not finished. The operation ID of the operation must be specified.

Input Name	Range	Type	Description
operation-id	**[0..2^32-1]**	integer	Operation ID of SnapLock Event Based Retention operation to be aborted.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-event-retention-apply-start

[top]

The snaplock-event-retention-apply-start API can be used to apply an Event Based Retention policy to files present under the specified path. Use the snaplock-event-retention-show API to display the status of the operation.

Input Name	Range	Type	Description
path		string	Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path.
policy-name		string	Name of the SnapLock Event Based Retention policy.
volume		string	Name of the SnapLock Volume.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	Operation ID of the SnapLock Event Based Retention operation.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-event-retention-get-iter

[top]

This API can be used to display the status of an Event Based Retention operation.

Input Name	Range	Type	Description
desired-attributes		snaplock-event-retention-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-event-retention-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-event-retention-info[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEDOESNOTEXIST	
EONTAPI_ENOENT	

EONTAPI_EINVAL	

snaplock-event-retention-policy-create

[top]

Create SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
name		string	Name of the SnapLock Event Based Retention policy.
retention-period		snaplock-minmax-period	Retention period of the SnapLock Event Based Retention policy.
return-record		boolean optional	If set to true, returns the snaplock-event-retention-policy on successful creation. Default: false

Output Name	Range	Type	Description
result		snaplock-event-retention-policy-info optional	The snaplock-event-retention-policy created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EDUPLICATEENTRY	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snaplock-event-retention-policy-destroy

[top]

Delete SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
name		string	Name of the SnapLock Event Based Retention policy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snaplock-event-retention-policy-get-iter

[top]

Get SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
desired-attributes		snaplock-event-retention-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-event-retention-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock-event-retention-policy object. All snaplock-event-retention-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-event-retention-policy-info[] optional	The list of attributes of snaplock-event-retention-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock-event-retention-policy objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snaplock-event-retention-policy-modify

[top]

Modify SnapLock Event Based Retention policies.

Input Name	Range	Type	Description
name		string	Name of the SnapLock Event Based Retention policy.
retention-period		snaplock-minmax-period optional	Retention period of the SnapLock Event Based Retention policy.

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snaplock-file-privileged-delete

[top]

Executes a privileged delete on a SnapLock file A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
file		string	Full path of the file that needs to be deleted

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EONTAPI_ENXIO	
EONTAPI_EIO	
EONTAPI_EINVAL	
EINTERNALERROR	
EAPIERROR	
EONTAPI_EROFS	
EONTAPI_ENOENT	
EONTAPI_EOFFLINE	
EONTAPI_ENOMEM	
EOPNOTSUPPORTED	
EONTAPI_EPERM	
EONTAPI_EACCES	
EONTAPI_EWORMNOCLOCK	

snaplock-get-clock-ntp-sync

[top]

Display the NTP sync option setting.

Input Name	Range	Type	Description
desired-attributes		snaplock-clock-ntp-sync optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snaplock-clock-ntp-sync	The attributes of the snaplock.

Errno	Description
EINTERNALERROR	

snaplock-get-compliance-clock

[top]

Older API to get the system complaince Clock time. Now depricated. Use snaplock-get-system-compliance-clock and snaplock-get-volume-compliance-clock.

Errno	Description
EAPINOTIMPLEMENTED	

snaplock-get-file-retention

[top]

Get retention time of a file protected by SnapLock.

Input Name	Range	Type	Description
desired-attributes		snaplock-file-retention-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
file		string	Specifies the absolute path of the file. The value begins with /vol/.

Output Name	Range	Type	Description
attributes		snaplock-file-retention-info	The attributes of the snaplock.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snaplock-get-node-compliance-clock

[top]

Get the SnapLock Node ComplianceClock date and time.

Input Name	Range	Type	Description
node		node-name	Name of the node on which the ComplianceClock needs to be fetched.

Output Name	Range	Type	Description
snaplock-node-compliance-clock		compliance-clock-info	Node ComplianceClock

Errno	Description
ESNAPLOCKNOTLICENSED	
ECOMPLIANCECLOCKNOTSET	

snaplock-get-system-compliance-clock

[top]

Get the SnapLock System Compliance Clock date and time.

Output Name	Range	Type	Description
system-compliance-clock		compliance-clock-info	System Compliance Clock.

Errno	Description
EONTAPI_EWORMVOLNOTWORM	

Vfiler-enabled
Yes

snaplock-get-volume-compliance-clock

[top]

Get the SnapLock Volume Compliance Clock date and time.

Input Name	Range	Type	Description
volume		string	Name of the volume whose ComplianceClock needs to be obtained.

Output Name	Range	Type	Description
system-compliance-clock		compliance-clock-info	System Compliance Clock.
volume-compliance-clock		compliance-clock-info	Volume Compliance Clock for input volume list.

Vfiler-enabled

Yes

snaplock-get-vserver-active-log-files-iter

[top]

Display Status of Active SnapLock Log Files.

Input Name	Range	Type	Description
desired-attributes		snaplock-vserver-log-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-vserver-log-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-vserver-log-file[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snaplock-get-vserver-log-iter

[top]

Display audit Log configuration.

Input Name	Range	Type	Description
desired-attributes		snaplock-vserver-log-config optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
		snaplock-vserver-	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All

query		log-config optional	snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-vserver-log-config[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snaplock-legal-hold-abort

[top]

This API is used to abort an ongoing legal-hold operation. This API only aborts legal-hold operations that have started and not finished. The operation ID of the legal-hold operation must be specified.

Input Name	Range	Type	Description
operation-id	**[0..2^32-1]**	integer	Operation ID of snaplock legal-hold operation.

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

snaplock-legal-hold-begin-start

[top]

This API starts an operation to put files in user specified path under legal-hold. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

Input Name	Range	Type	Description
litigation-name		string	Name of the litigation.
path		string	Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path.
volume		string	Name of the SnapLock compliance volume, on which legal-hold

			operation is to be performed.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	Operation ID of the legal-hold operation.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-dump-files-start

[top]

Dump the list of files under legal hold for a given volume and litigation to a user specified output path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

Input Name	Range	Type	Description
litigation-name		string	Name of the litigation, for which the list of files is to be dumped.
output-directory-path		string	Path of the form '/' relative to output volume root, where list of files is to be dumped.
output-volume		string	Name of the output volume, containing the path where list of files is to be dumped.
volume		string	Name of the SnapLock compliance volume, for which the list of files is to be dumped.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	operation ID of Dump Files Operation

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-dump-litigations-start

[top]

Dump the list of litigations to a user specified output path. The progress of the operation can be monitored using job-get api. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
output-directory-path		string	Path of the form '/' relative to volume root, where list of litigations is to be dumped.
output-volume		string	Name of the output volume, containing the path where list of litigations is to be dumped.
volume		string optional	Name of the SnapLock compliance volume for which the list of litigations is to be dumped.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-end-start

[top]

This API starts an operation to release legal-hold on files in user specified path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

Input Name	Range	Type	Description
litigation-name		string	Name of the litigation.
path		string	Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path.
volume		string	Name of the SnapLock compliance volume, on which legal-hold operation is to be performed.

Output Name	Range	Type	Description
result-operation-id	**[0..2^32-1]**	integer	Operation ID of the legal-hold operation.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	
EONTAPI_EINVAL	

snaplock-legal-hold-get-iter

[top]

This API is used to retrieve the status of legal-hold operations.

Input Name	Range	Type	Description
desired-attributes		snaplock-legal-hold-attributes-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snaplock-legal-hold-attributes-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snaplock-legal-hold-attributes-info[] optional	The list of attributes of snaplock objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snaplock objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EONTAPI_ENOENT	

EONTAPI_EINVAL	

snaplock-modify-clock-ntp-sync

[top]

Modify the NTP sync option.

Input Name	Range	Type	Description
is-sync-enabled		boolean optional	Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

snaplock-modify-vserver-log

[top]

Modify audit log configuration for a Vserver.

Input Name	Range	Type	Description
default-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are : • 'seconds' • 'minutes' • 'hours' • 'days' • 'months' • 'years' For example, a value if **6months** represents a retention period of 6 months.
max-log-size		size optional	Max log file size (in bytes).
volume		volume-name optional	Log Volume Name

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the modification operation caused an error.
result-error-message		string optional	Error description, if the modification operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_NOT_CONFIGURED	
E_AUDIT_LOG_VOL_NOT_SLC	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

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snaplock-set-file-retention

[top]

Set retention time of a file. User can specify either retention-time or set-infinite-retention or set-unspecified-retention. If none of the retention time parameters are specified, the file will get committed to WORM with default retention period.

Input Name	Range	Type	Description
file		string	Specifies the absolute path of the file. The value begins with /vol/.
retention-time		integer optional	Specifies the retention time of the file in seconds since 1 January 1970 00:00:00.
set-infinite-retention		boolean optional	Indicates if the retention time on the file needs to be extended to infinite retention time.
set-unspecified-retention		boolean optional	Indicates that the retention time is unspecified.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_ENOENT	
EONTAPI_EINVAL	
EONTAPI_EOFFLINE	
E_AUDIT_LOG_NOT_CONFIGURED	

snaplock-set-node-compliance-clock

[top]

Set the ComplianceClock of the node equal to the current system clock.

Input Name	Range	Type	Description
node		node-name	Name of the node on which the ComplianceClock needs to be set.

Errno	Description

ESNAPLOCKNOTLICENSED	
EALREADYSTARTED	
ECOMPLIANCECLOCKNOTSET	
EONTAPI_EIO	

snaplock-set-system-compliance-clock

[top]

Set the Compliance Clock of the system equal to the current system clock.

Errno	Description
ESNAPLOCKNOTLICENSED	
EALREADYSTARTED	
ECOMPLIANCECLOCKNOTSET	
EONTAPI_EIO	

snaplock-volume-set-privileged-delete

[top]

The volume-set-privileged-delete API is used to set the SnapLock privileged-delete attibute on a Snaplock enterprise volume. The privileged-delete attibute can be set to one of the following values:

- enabled
- disabled
- permanently-disabled

If privileged-delete is 'enabled' on a SnapLock enterprise volume, the user is allowed to perform privileged-delete operation on that volume. If privileged-delete is set to 'disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation on that volume. If privileged-delete is 'permanently-disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation or further change the privileged-delete attribute on that volume. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
state		string	Privileged-delete attribute on the SnapLock enterprise volume. The privileged-delete can be set to one of the following: • enabled • disabled • permanently-disabled
volume		string	Specifies the name of the SnapLock enterprise volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
	[0..2^64-	integer	

result-jobid	**1]**	optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EONTAPI_EINVAL	
EONTAPI_ENOENT	
EONTAPI_EIO	
EONTAPI_EOFFLINE	
EINTERNALERROR	

License
SnapLock

volume-get-snaplock-attrs

[top]

Returns snaplock attributes of a given snaplock volume.

Input Name	Range	Type	Description
volume		volume-name	Name of the snaplock volume.

Output Name	Range	Type	Description
snaplock-attrs		snaplock-attrs-info	Snaplock attributes of the volume.

volume-set-snaplock-attrs

[top]

Sets the given snaplock attributes of a snaplock volume.

Input Name	Range	Type	Description
autocommit-period		snaplock-autocommit-period optional	Specifies the autocommit-period for the snaplock volume. All files which are not modified for a period greater than the autocommit-period of the volume are committed to WORM state. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **2hours** represents a autocommit period of 2 hours. This option can also be specified as "none" indicating that autocommit is disabled on the snaplock volume Attributes: non-creatable, modifiable
			Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention

default-retention-period		snaplock-default-period optional	retention time set. If this option is specified as "min", then minimum-retention-period will be used as the default retention period. If this option is specified as "max", then maximum-retention-period will be used as the default retention period. If this attribute is specified as "infinite", the infinite retention period as the default retention period. If this attribute is specified as "unspecified", then unspecified retention period will be set as default retention period. This option can also be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "seconds" • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **6months** represents a retention period of 6 months. Attributes: non-creatable, modifiable
is-volume-append-mode-enabled		boolean optional	Specifies if the volume append mode must be enabled or disabled. It can be modified only when the volume is not mounted and does not have any data or Snapshot copy. Volume append mode is not supported on SnapLock audit log volumes. When it is enabled, all files created with write permissions on the volume will be WORM appendable files by default. All WORM appendable files not modified for a period greater than the autocommit period of the volume are also committed to WORM read-only state. Attributes: non-creatable, modifiable
maximum-retention-period		snaplock-minmax-period optional	Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "seconds" • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have maximum retention period as infinite. This attribute is not applicable while extending retention period of an already committed WORM file. Attributes: non-creatable, modifiable
minimum-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are : • "seconds" • "minutes" • "hours" • "days" • "months" • "years" For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have minimum retention period as infinite. This attribute is not applicable while extending retention period of an already

			committed WORM file. Attributes: non-creatable, modifiable
volume		volume-name	Name of the snaplock volume.

Element definition: **compliance-clock-info**

[top]

Compliance Clock

Name	Range	Type	Description
formatted-snaplock-compliance-clock		string	If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized.
snaplock-compliance-clock		integer optional	If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1].

Element definition: **file-retention-info**

[top]

retention information for each file

Name	Range	Type	Description
formatted-retention-time		string optional	expiry date of the worm file formatted in a human-readable format. This takes care of wrap-around dates and prints the expiry date of the file in the the format :: A value of "INFINITE" indicates that this file has infinite retention-time. A value of "unspecified" indicates that this file has unspecified retention-time. This field is not included in non-worm files (when snaplock-type is NONE).
is-wraparound		boolean optional	True if the date represented in retention-time is a wrap-around date. This field is not included in case the file is not a worm file or if it has infinite retention.
pathname		string	pathname of the file. This will always have the same format and values as the input pathname-info array.
retention-time		integer optional	retention time in seconds in the standard UNIX format (since 01/01/1970 00:00:00). SnapLock wraps around the retention time to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071 This field is not included in case the file is not a worm file or if the file has infinite retention. The flag is-wraparound indicates if this date is in the normal format or is wrapped around. The field formatted-retention-time represents the date as understood by SnapLock for retention of the file. Range: [0..2^64-1]
snaplock-error		snaplock-error optional	This value is only present if there is an error for a specific pathname entry. Error numbers returned EFILENOTFOUND, EINVALIDINPUTERROR, EVOLUMEOFFLINE, EVOLUMEDOESNOTEXIST, EVOLUMEQUIESCED, EINTERNALERROR
snaplock-type		string optional	type of snaplock license applicable for this file Possible values "SLC" - indicates it is a worm file with snaplock compliance restrictions applying to it. "SLE" - indicates it is a worm file with snaplock enterprise restrictions applying to it. "NONE" - Not a worm file

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplock-attrs-info**

[top]

SnapLock Attributes

Name	Range	Type	Description
autocommit-period		snaplock-autocommit-period optional	Specifies the autocommit period for the SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to WORM state. Attributes: non-creatable, modifiable
default-retention-period		snaplock-default-period optional	Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention retention time set. Attributes: non-creatable, modifiable
is-audit-log-volume		boolean optional	Specifies if volume is a SnapLock audit volume. Attributes: non-creatable, non-modifiable
is-volume-append-mode-enabled		boolean optional	Specifies if the volume append mode is enabled or disabled. Attributes: non-creatable, modifiable
is-volume-expiry-time-indefinite		boolean optional	Indicates if the volume expiry time is indefinite or not. Attributes: non-creatable, non-modifiable
is-volume-expiry-time-infinite		boolean optional	Indicates if the volume expiry time is infinite or not. Attributes: non-creatable, non-modifiable
litigation-count		string optional	Specifies the number of litigations on Snaplock Volume. Attributes: non-creatable, non-modifiable
maximum-retention-period		snaplock-minmax-period optional	Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable
minimum-retention-period		snaplock-minmax-period	Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable

		optional	
privileged-delete-state		string optional	Specifies the prvileged delete state on Snaplock Volume.
type		snaplocktype optional	SnapLock Type of the given volume. Attributes: non-creatable, non-modifiable Possible values: • "non_snaplock" , • "compliance" , • "enterprise"
unspecified-retention-file-count		string optional	Specifies the number of files with unspecified retention time. Attributes: non-creatable, non-modifiable
volume-compliance-clock		compliance-clock-info optional	Specifies the volume ComplianceClock of the volume. Attributes: non-creatable, non-modifiable
volume-expiry-time		string optional	Specifies the expiry time of the volume. Attributes: non-creatable, non-modifiable
volume-expiry-time-secs		integer optional	Specifies the expiry time of the volume in seconds. if the expiry time is infinite or indefinite, then no value will be returned. Attributes: non-creatable, non-modifiable

Element definition: **snaplock-autocommit-period**

[top]

Snaplock Autocommit Period

[none]

Element definition: **snaplock-clock-ntp-sync**

[top]

Information about ComplianceClock sync setting. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-sync-enabled		boolean optional	Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured Attributes: non-creatable, modifiable

Element definition: **snaplock-default-period**

[top]

Snaplock default retention period

[none]

Element definition: **snaplock-event-retention-info**

[top]

SnapLock Event Based Retention operation information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
num-files-failed	**[0..2^32-1]**	integer optional	Number of files on which the application of Event Based Retention policy failed. Attributes: non-creatable, non-modifiable
num-files-processed	**[0..2^32-1]**	integer optional	Number of files on which the Event Based Retention policy has been applied successfully. Attributes: non-creatable, non-modifiable
num-files-skipped	**[0..2^32-1]**	integer optional	Number of files on which the application of Event Based Retention policy was skipped. Attributes: non-creatable, non-modifiable
num-inodes-ignored	**[0..2^32-1]**	integer optional	The total count of inodes which were ignored during application of Event Based Retention policy because they are not regular files. Attributes: non-creatable, non-modifiable
operation-id	**[0..2^32-1]**	integer optional	Operation ID of SnapLock Event Based Retention operation. Attributes: key, non-creatable, non-modifiable
operation-status		wormopstatus optional	Status of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "in_progress" , • "failed" , • "aborting" , • "completed"
path		string optional	Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path. Attributes: non-creatable, non-modifiable
policy-name		string optional	Name of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable
retention-period		snaplock-minmax-period optional	Retention period of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable
status-details		string optional	Status details of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable
volume		volume-name optional	Name of the SnapLock Volume. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-event-retention-policy-info**

[top]

Information about SnapLock Event Based Retention policies. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
name		string optional	Name of the SnapLock Event Based Retention policy. Attributes: key, required-for-create, non-modifiable
retention-period		snaplock-minmax-period optional	Retention period of the SnapLock Event Based Retention policy. Attributes: required-for-create, modifiable
vserver		vserver-name optional	Name of the Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-file-retention-info**

[top]

Information about retention time of a file protected by SnapLock. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
file		string optional	Specifies the absolute path of the file. The value begins with /vol/. Attributes: key, non-creatable, non-modifiable
formatted-retention-time		string optional	Specifies the expiry date of the file in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. Attributes: non-creatable, non-modifiable
is-wraparound		boolean optional	Specifies the value true if the date represented in retention time is in wraparound format. The wraparound format indicates that dates after 19 January 2038 are mapped from 1 January 1970 - 31 December 2002 to 19 January 2038 - 19 January 2071. Attributes: non-creatable, non-modifiable

retention-time	**[0..2^64-1]**	integer optional	Specifies the retention time of the file in seconds since 1 January 1970 00:00:00. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Specifies the name of the Vserver which has the file. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-legal-hold-attributes-info**

[top]

SnapLock legal-hold attributes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
litigation-name		string optional	Name of the litigation. Attributes: non-creatable, non-modifiable
num-files-failed	**[0..2^32-1]**	integer optional	The total count of files for which legal-hold operation failed. Attributes: non-creatable, non-modifiable
num-files-processed	**[0..2^32-1]**	integer optional	The total count of files for which legal-hold operation was performed. Attributes: non-creatable, non-modifiable
num-files-skipped	**[0..2^32-1]**	integer optional	The total count of files for which legal-hold operation was skipped. Attributes: non-creatable, non-modifiable
num-inodes-ignored	**[0..2^32-1]**	integer optional	The total count of inodes which were ignored by legal-hold operation because they are not regular files. Attributes: non-creatable, non-modifiable
operation-id	**[0..2^32-1]**	integer optional	Operation ID of the legal-hold operation. Attributes: key, non-creatable, non-modifiable
operation-status		wormopstatus optional	Status of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "in_progress" , • "failed" , • "aborting" , • "completed"
operation-type		wormlegalop optional	Type of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "begin" , • "end" , • "dump_files"
path		string optional	Path of the form '/' relative to volume root. Attributes: non-creatable, non-modifiable
status-details		string optional	Completion string of the legal-hold operation. Attributes: non-creatable, non-modifiable

volume		volume-name optional	Name of the SnapLock compliance volume, on which legal-hold operation is running. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Name of the vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-minmax-period**

[top]

SnapLock Min and Max retention period

[none]

Element definition: **snaplock-pathname-info**

[top]

pathname info for each file

Name	Range	Type	Description
snaplock-pathname		string	pathname of the file. Pathname must be of the format /vol//

Element definition: **snaplock-vserver-log-config**

[top]

Information about Audit log congfiguration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
default-retention-period		snaplock-minmax-period optional	Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number><suffix>' format. Valid values of the suffix are : • 'seconds' • 'minutes' • 'hours' • 'days' • 'months' • 'years' For example, a value if **6months** represents a retention period of 6 months. Attributes: optional-for-create, modifiable
max-log-size		size optional	Max log file size (in bytes). Attributes: optional-for-create, modifiable

volume		volume-name optional	Log Volume Name Attributes: required-for-create, modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **snaplock-vserver-log-file**

[top]

Information about Audit log file. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
base-name		snaplock-log-base optional	Base Name of Log File Attributes: key, non-creatable, non-modifiable Possible values: • "privileged_delete" , • "system" , • "legal_hold"
expiry-time		string optional	Log File Expiry Time Attributes: non-creatable, non-modifiable
file-path		string optional	Log File Path Attributes: non-creatable, non-modifiable
file-size		size optional	File Size Attributes: non-creatable, non-modifiable
volume		volume-name optional	Log Volume Name Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **compliance-clock-info** [top]

Compliance Clock

Name	Range	Type	Description
formatted-snaplock-compliance-clock		string	If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized.
snaplock-compliance-clock		integer optional	If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1].

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplock-error** [top]

Information about a single quota error.

Name	Range	Type	Description
errno		integer	The error number Range: [0..2^64-1]
reason		string	A human-readable concise reason for the error.

Element definition: **snaplock-log-base** [top]

privileged-delete | system | legal-hold Possible values:

- "privileged_delete" ,
- "system" ,
- "legal_hold"

[none]

Element definition: **snaplock-minmax-period** [top]

SnapLock Min and Max retention period

[none]

Element definition: **snaplocktype** [top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **wormlegalop** [top]

unknown|begin|end|dump-files Possible values:

- "unknown" ,
- "begin" ,
- "end" ,
- "dump_files"

[none]

Element definition: **wormopstatus** [top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

APIs in Category: **snapmirror**

snapmirror-abort
snapmirror-abort-async
snapmirror-abort-iter
snapmirror-break
snapmirror-break-async
snapmirror-break-iter
snapmirror-capabilities-get
snapmirror-capabilities-get-iter
snapmirror-check
snapmirror-check-iter
snapmirror-config-replication-cluster-storage-configuration-get
snapmirror-config-replication-cluster-storage-configuration-modify
snapmirror-cr-status-aggregate-eligibility-get
snapmirror-cr-status-aggregate-eligibility-get-iter
snapmirror-cr-status-comm-get
snapmirror-cr-status-comm-get-iter
snapmirror-cr-status-get
snapmirror-create
snapmirror-delete-connection
snapmirror-delete-schedule
snapmirror-delete-sync-schedule
snapmirror-destroy
snapmirror-destroy-async
snapmirror-destroy-iter
snapmirror-get
snapmirror-get-destination
snapmirror-get-destination-iter
snapmirror-get-dp-personality
snapmirror-get-iter
snapmirror-get-status
snapmirror-get-total-records
snapmirror-get-volume-status

This set of APIs allows to manage SnapMirror relationships on Data ONTAP operating in 7-Mode or in Cluster-Mode. This includes the creation, initialization, update, resynchronization, modification of configuration parameters, and information query.

The user's role determines the APIs that can be issued. In general APIs that simply query status information about SnapMirror relationships only require that the user has read access. APIs that modify the state of the system require write access. This includes creation, destruction, modification or update of relationships.

A valid SnapMirror license is necessary to be able to use APIs that create, initialize, or destroy SnapMirror relationships. Most of the APIs require that you specify at least one of the endpoints of the SnapMirror relationship. On Data ONTAP operating in 7-Mode, the endpoint can be a volume or a qtree. On Data ONTAP operating in Cluster-Mode the endpoint can only be a volume.

An endpoint can be specified by providing its location in a path format. The format depends on the version of Data ONTAP and the mode it is operating in:

On Data ONTAP operating in 7-Mode the format is: <system>:/vol/<volume>[/<qtree>] where 'system' is the name of the storage system; 'volume' is the name of the volume, and 'qtree' the name of the qtree.

On Data ONTAP 8.1 operating in Cluster-Mode, the format is: [<cluster>:]//<vserver>/<volume> where 'cluster' is the name of the cluster, 'vserver' the name of the Vserver, 'volume' is the name of the volume.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the format of the path is: [<vserver>:]<volume> where 'vserver' is the name of the Vserver, 'volume' is the name of the volume. Note that this requires the Vserver peering capability, which handles the mapping of a Vserver to the right cluster. The control plane for these relationship is specific to Data ONTAP 8.2 and later. The progress of long operations such as initialize, update, resync, or restore is monitored via the snapmirror-get API. The relationship-control-plane field is set to 'v2'. For backward compatibility with Data ONTAP 8.1 operating in Cluster-Mode, and to accommodate load-sharing relationships which are only supported in a Data ONTAP 8.1 compatible way, the relationships that match one of the following conditions are managed as on Data ONTAP 8.1 operating Cluster-Mode. The control plane of these relationships is compatible with Data ONTAP 8.1 operating Cluster-Mode.

- Load-sharing relationship.
- Cross-cluster relationship with the source endpoint on Data ONTAP 8.1 operating in Cluster-Mode.
- Relationship existed before the local cluster was upgraded from Data ONTAP 8.1 operating in Cluster-Mode and has not yet been converted to one with Data ONTAP 8.2 capabilities.

snapmirror-history-get
snapmirror-history-get-iter
snapmirror-initialize
snapmirror-initialize-iter
snapmirror-initialize-ls-set
snapmirror-list-connections
snapmirror-list-destinations
snapmirror-list-schedule
snapmirror-list-sync-schedule
snapmirror-list-unprotected
snapmirror-modify
snapmirror-modify-iter
snapmirror-off
snapmirror-on
snapmirror-promote
snapmirror-promote-iter
snapmirror-protect
snapmirror-quiesce
snapmirror-quiesce-iter
snapmirror-release
snapmirror-release-iter
snapmirror-restore
snapmirror-resume
snapmirror-resume-iter
snapmirror-resync
snapmirror-resync-iter
snapmirror-set-connection
snapmirror-set-schedule
snapmirror-set-sync-schedule
snapmirror-snapshot-owner-create
snapmirror-snapshot-owner-destroy
snapmirror-snapshot-owner-get
snapmirror-snapshot-owner-get-snapshots
snapmirror-throttle
snapmirror-update
snapmirror-update-iter
snapmirror-update-ls-set

The path format of Data ONTAP 8.1 operating in Cluster-Mode must be used. Long operations such as initialize, update, resync, restore spawn a job. The job API must be used to track the progress of the operation. The relationship-control-plane field is set to 'v1' for these relationships. On Data ONTAP operating in Cluster-Mode, it is also possible to specify the endpoint by providing the names of the cluster, Vserver, and volume of the endpoint separately.

In general it is mandatory to specify the destination endpoint.

Beginning with ONTAP 9.1, you can no longer create new load-sharing mirrors for data volumes. Existing load-sharing mirrors for data volumes are supported through the ONTAP 9.4 release. Load-sharing mirrors for Vserver root volume protection continue to be supported as a NetApp best practice.

snapmirror-abort

[top]

The snapmirror-abort API stops ongoing transfers for a SnapMirror relationship. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using snapmirror-abort. On Data ONTAP operating in Cluster-Mode, the snapmirror-abort API stops all of the active transfers to each associated volume on the receiving side in a set of load-sharing mirrors. Load-sharing mirrors are either up to date and serving data to clients, or they are lagging and not serving data to clients. If the snapmirror-abort API identifies an up-to-date load-sharing mirror, then SnapMirror transfers to associated up-to-date load-sharing mirrors in the set of load-sharing mirrors are also aborted. If the snapmirror-abort API identifies a lagging load-sharing mirror, then only the SnapMirror transfer associated with the lagging load-sharing mirror is aborted. After the snapmirror-abort API successfully completes its operation, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer. Snapmirror-abort API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, from the destination Vserver or cluster on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

Input Name	Range	Type	Description
check-only		boolean optional	If this option is specified true, only snapmirror-check operations active on the relationship will be aborted.
clear-checkpoint		boolean optional	If true, the restart checkpoint is cleared. The default is false, not cleared. This parameter is not supported for relationships with non_Data ONTAP endpoints.
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
			Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:

destination-volume		string optional	• The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. This parameter is not supported if the source is a non-Data ONTAP endpoint.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the source volume.

			• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
ESNAPMIRRORERR	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LS_VOLUME	
EANOTHER_OP_ACTIVE	
ENOTRANSFER_IN_PROGRESS	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled
Yes

snapmirror-abort-async

[top]

The snapmirror-abort-async API stops ongoing transfer for a SnapMirror relationship on Infinite Volume. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using the snapmirror-abort-async API. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

Snapmirror-abort-async API must be used from the destination cluster on Data ONTAP Cluster-Mode. For Infinite volume SnapMirror relationships,

- after the snapmirror-abort-async API successfully aborted the transfer, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
check-only		boolean optional	If this option is specified true, only snapmirror-check operations active on the relationship will be aborted.
			If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy

clear-checkpoint		boolean optional	that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This parameter is not supported for relationships with non-Data ONTAP endpoints.
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.

destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

			• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	

snapmirror-abort-iter

[top]

The snapmirror-abort-iter API aborts SnapMirror transfers for one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
check-only		boolean optional	If this option is specified true, only snapmirror-check operations active on the relationship will be aborted.
clear-checkpoint		boolean optional	If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This

			parameter is not supported for relationships with non-Data ONTAP endpoints.
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-abort-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-abort-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-break

[top]

Breaks a SnapMirror relationship between a source and destination volume data protection mirror. When Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy.

On Data ONTAP operating in 7-Mode, no check is done to determine whether the operation is legal or successful. You need to query the status afterward by using the snapmirror-get-status API.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is re-established using the snapmirror-resync API.

On Data ONTAP operating in Cluster-Mode, this API applies only to data protection mirrors and not to load-sharing mirrors.

The snapmirror-break API must be issued on destination storage system on Data ONTAP operating in 7-Mode, and on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination cluster or Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

This API is not supported if the destination is a non-Data ONTAP endpoint.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, If the destination endpoint is a qtree, it must be quiesced using snapmirror-quiesce. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.

			This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
recover		boolean optional	When a SnapMirror break operation fails on a FlexGroup relationship, a subset of the consituents could have been made writable and subsequently user data could have been written to these constituents. To recover from this failure, the break command can be executed again specifying the recover parameter. All constituents will be restored to the latest Snapshot copy, and any writes to the read-write constituents will be lost. This parameter is applicable only for SnapMirror relationships with FlexGroup endpoints. This field only applies on Data ONTAP 9.1 or later.
restore-destination-to-snapshot		string optional	Specifies the Snapshot copy to which the destination volume is restored after a successful break operation. If the parameter is not specified, the destination is restored to the latest Snapshot copy. This parameter is not supported for FlexGroup relationships.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-

			Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
ESNAPMIRRORERR	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_LS_VOLUME	
EDEST_IS_EXISTING_SOURCE_VOLUME	
EANOTHER_OP_ACTIVE	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
EPUSHMSG_ABORTED	

Vfiler-enabled
Yes

snapmirror-break-async

[top]

The snapmirror-break-async API breaks a SnapMirror relationship between a source Infinite Volume and a destination Infinte volume or a source Vserver and destination Vserver. For Infinite volume SnapMirror relationship, when Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy. You must specify the destination endpoint when using snapmirror-break-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinte volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3.1 or later.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is reestablished using the snapmirror-resync API. This API applies only to data protection mirrors for Infinite Volumes and data protection relationships for Vservers. You must use the snapmirror-break-async API from the destination cluster. For volume level relationship, this API is not supported

- on Infinite Volume constituents.
- if the destination end point is a flexible volume.
- if the destination end point is a FlexGroup or FlexGroup constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
			Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:

destination-vserver		string optional	• The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
recover		boolean optional	Recover
restore-destination-to-snapshot		string optional	Restore Destination to Snapshot Copy
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in

			Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_BREAK_INCOMPLETE	
EVSERVERDR_VSERVER_NOT_INITIALIZED	
EVSERVERDR_RELATIONSHIP_MODIFY_FAILED	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	

snapmirror-break-iter

[top]

The snapmirror-break-iter API breaks one or more SnapMirror relationships.

Input Name	Range	Type	Description
			This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with

continue-on-failure		boolean optional	the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
recover		boolean optional	Recover
restore-destination-to-snapshot		string optional	Restore Destination to Snapshot Copy
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-break-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-break-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-capabilities-get

[top]

The snapmirror-capabilities-get API returns capabilities information for an endpoint type. It is supported only for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume, or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

Input Name	Range	Type	Description
desired-attributes		snapmirror-capabilities-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
endpoint-type		smendpointtype	Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Possible values: • "flexvol" , • "object_store"

Output Name	Range	Type	Description
attributes		snapmirror-capabilities-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapmirror-capabilities-get-iter

[top]

The snapmirror-capabilities-get API returns capabilities information for one or more endpoint types. It is only supported for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

Input Name	Range	Type	Description
desired-attributes		snapmirror-capabilities-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-capabilities-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-capabilities-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapmirror-check

[top]

The snapmirror-check API starts an operation to compare the contents of a snapshot between the source volume and destination volume. You must specify the destination endpoint when using snapmirror-check.

It is also possible to use the snapmirror-check command to compare only the contents of specific files or LUNs in specific Snapshot copies. A file-level check is run when the check-file-list, source-path, source-snapshot, and target-snapshot parameters are specified. Only the contents of the files specified in check-file-list are compared. You can also run a file-level check between volumes that are not in a SnapMirror relationship.

This API is not supported for relationships with AltaVault endpoints.

For FlexGroup relationships, there is no support in the checker to check the relationship at the FlexGroup level. The checker must be run on the constituent level relationships which are returned when the snapmirror-get-iter API specifying the expand parameter is used.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
check-file-list		snapmirror-file-path[] optional	Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it.

			Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later

			operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later.
skip-se-check		boolean optional	Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume

			are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-snapshot		string optional	Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.
target-snapshot		string optional	Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_IS_DIFFERENT	
EDEST_VOLUME_NOT_INITIALIZED	
EOP_FROM_NONMGR_VSERVER	

snapmirror-check-iter

[top]

The snapmirror-check-iter API checks one or more SnapMirror relationships. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
check-file-list		snapmirror-file-path[] optional	Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not

			provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
skip-se-check		boolean optional	Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later.
source-snapshot		string optional	Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
target-snapshot		string optional	Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check.

Output Name	Range	Type	Description
failure-list		snapmirror-check-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-check-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-config-replication-cluster-storage-configuration-get

[top]

The snapmirror-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-storage-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-cr-storage-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-config-replication-cluster-storage-configuration-modify

[top]

The snapmirror-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

Input Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-cr-status-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

Input Name	Range	Type	Description
aggregate		aggr-name	The aggregate being evaluated for config-replication volume hosting eligibility.
desired-attributes		snapmirror-cr-status-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-cr-status-aggregate-eligibility-info	The attributes of the snapmirror-cr-status-aggregate-eligibility.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-cr-status-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-aggregate-eligibility-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-cr-status-aggregate-eligibility-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-cr-status-aggregate-eligibility object. All snapmirror-cr-status-aggregate-eligibility objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		snapmirror-cr-status-	

attributes-list		aggregate-eligibility-info[] optional	The list of attributes of snapmirror-cr-status-aggregate-eligibility objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror-cr-status-aggregate-eligibility objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-cr-status-comm-get

[top]

Obtain the results of the SnapMirror config replication status check.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-comm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-cluster-uuid		string	The UUID of the peer cluster destination for SnapMirror configuration replication.

Output Name	Range	Type	Description
attributes		snapmirror-cr-status-comm-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-cr-status-comm-get-iter

[top]

Obtain the results of the SnapMirror config replication status check.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-comm-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-cr-status-comm-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-cr-status-comm-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-cr-status-get

[top]

Obtain the results of the SnapMirror config replication status check.

Input Name	Range	Type	Description
desired-attributes		snapmirror-cr-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-cr-status-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-create

[top]

The snapmirror-create API creates a SnapMirror relationship between a source and destination volume or Vserver. The following types of relationships can be created:

- 'data_protection' - For Disaster Recovery (DR);
- 'load_sharing' - For load-sharing within the same Vserver;
- 'vault' - For Vault;
- 'transition_data_protection' - For 7-mode to Cluster-Mode transition;
- 'restore' - For restoring a data protection (DP) volume data;
- 'extended_data_protection' - For extended data protection;

With Data ONTAP 9.5 or later, when a new relationship is created with 'extended_data_protection' as the type and no policy is specified, the system policy 'MirrorAndVault' will be used. With Data ONTAP 9.3 or later, when a new relationship is created with 'data_protection' as type, an 'extended_data_protection' relationship will be created. This relationship will provide the same functional behavior as the 'data_protection' type in terms of Snapshot copy selection and retention. This is achieved by using a policy which has the rule to replicate all Snapshot copies. The SnapMirror create will fail if the policy specified does not have the rule to replicate all Snapshot copies. There is an exception to this overriding of the 'data_protection' type. If a relationship of type 'data_protection' in the opposite direction already exists, the new relationship will also be of type 'data_protection'. The 'data_protection' type is deprecated and applications should use the 'extended_data_protection' type when creating new relationships. On Data ONTAP 8.1 operating in Cluster-Mode, only 'data_protection' and 'load_sharing' type are supported. Relationships of type 'restore' are created temporary during a restore operation initiated using the snapmirror-restore API or the corresponding command. The source and destination endpoints must be specified when using the snapmirror-create API. This API will fail if the destination volume does not exist. With Data ONTAP 9.3 or later the following relationships can be created:

- SnapMirror relationships between a Data ONTAP volume and a SolidFire endpoint.
- When a SolidFire endpoint is specified as source or destination, a Data ONTAP volume must be used as the other side of the SnapMirror relationship.

With Data ONTAP 9.1 or later the following relationships can be created:

- SnapMirror relationships between two FlexGroups. FlexGroups only support extended data protection relationships. For FlexGroup relationships, the source and destination FlexGroups must be spread over the same number of aggregates as specified in the volume-create-async API aggr-list parameter with the same number of constituents per aggregate as specified in the volume-create-async API aggr-list-multiplier parameter.
- SnapMirror relationships between a Data ONTAP source volume and an AltaVault destination endpoint.
- When an AltaVault destination is specified, the source must be a Data ONTAP volume.
- An AltaVault source cannot be specified for create.

With Data ONTAP 8.3 or later, you can create a SnapMirror relationship between two Vservers. The destination Vserver will be a backup of the source Vserver's data and configuration. For this, before you use this API, you should have created a source and a destination Vserver. The source Vserver should be a default data Vserver. On Data ONTAP 8.2 operating in Cluster-Mode, the API does not validate the attributes and the existence of the source volume. It will succeed even if the source volume does not exist. The validation will be done at the first transfer time. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if the source volume is not in online state and read-write (RW) type, or the destination volume is not in online state and a DP (Data Protection) type. Note: The source volume might contain data and Snapshot copies prior to creating the SnapMirror relationship. If the destination volume is not empty, it must have a Snapshot copy in common with the source volume, that is, it must have once been a copy of the source volume. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if there is no common Snapshot copy. On Data ONTAP 8.2 operating in Cluster-Mode the API will succeed, but all subsequent transfers will fail if there is no common snapshot copy. Load-sharing mirrors have the following restrictions: - They only use FlexVol volumes. - They are confined to a single Vserver; they are not allowed to span Vservers. - The source or destination of a load-sharing relationship cannot be the source or destination of any other SnapMirror relationship. A set of load-sharing mirrors can have one or more destination volumes. You create separate SnapMirror relationships between the common source volume and each destination volume to create the set of load-sharing mirrors. If the destination volume is empty, it must be initialized using the snapmirror-initialize API. Destination volumes in a set of load-sharing mirrors must be initialized using the snapmirror-initialize-ls-set API. The snapmirror-create API must be issued on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 operating in Cluster-Mode.

Input Name	Range	Type	Description
			Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be

cg-item-mappings		string[] optional	considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,...
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.

destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
identity-preserve		boolean optional	This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false.
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
policy		string optional	Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.
relationship-type		string optional	Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Possible values: • "data_protection" , • "load_sharing" , • "vault" , • "restore" , • "transition_data_protection" , • "extended_data_protection"
return-record		boolean optional	If set to true, returns the snapmirror on successful creation. Default: false

schedule		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationship.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
			Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:

source-vserver		string optional	• The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored.
vserver		string optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context.

Output Name	Range	Type	Description
result		snapmirror-info optional	The snapmirror created (keys or the entire object if requested)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPILICENSE	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_SAME	
ESOURCE_ISNOT_RW_VOLUME	
EDEST_ISNOT_LS_VOLUME	
ESOURCE_IS_DIFFERENT	
ERELATION_EXISTS	
ESOURCE_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_VSERVERS_DIFFERENT	
EDEST_IS_RW_VOLUME	
ESOURCE_IS_STRIPED_VOLUME	
EDEST_IS_STRIPED_VOLUME	
EDEST_VOLUME_HAS_CACHE	
ESOURCE_VOLUME_HAS_CACHE	
EDEST_IS_EXISTING_DEST_VOLUME	
EDEST_VOLUME_NOT_EMPTY	
EDEST_IS_LS_VOLUME	
EDEST_IS_VOLUME_CLONE	
ENOSNAPSHOT_COPY	
EVOLUMES_EMPTY	

EVOLUMES_WITH_DIFF_STRIPES	
ESCHEDULE_DOESNT_EXIST	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_VSR_INFO_GET_FAILED	
EVSERVERDR_SRC_VSERVER_LOCAL	
EVSERVERDR_INCORRECT_SUBTYPE_SRC	
EVSERVERDR_DST_DESTINATION_OF_DR_RELATION	
EVSERVERDR_DST_DESTINATION_OF_VSM_RELATION	
EVSERVERDR_VS_SM_NOT_ALLOWED_IN_VSERVER	
EVSERVERDR_NO_SM_IN_MCC	
EVSERVERDR_CAPABILITY_NOT_ENABLED	
EVSERVERDR_CAPABILITY_NOT_ENABLED_ON_SRC	
EVSERVERDR_GET_OPTIMUM_NODE_FAILED	
EVSERVERDR_ONLY_DP_TYPE_ALLOWED	
ENOT_SUPPORTED_BY_FLEXGROUP_OR_CONSTITUENTS	
ENOT_SUPPORTED_BY_FLEXGROUP_CONSTITUENTS	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

License
SnapMirror

snapmirror-delete-connection

[top]

Deletes a connection specified by connection. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

Input Name	Range	Type	Description
connection		string	Connection name to delete. The name is in ASCII and must begin with an alpha character.

Vfiler-enabled
Yes

License
replicate

snapmirror-delete-schedule

[top]

Delete the schedule for a given destination. This API must be executed on the destination filer.

Input Name	Range	Type	Description

destination-location		string	The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.

Vfiler-enabled
Yes

License
replicate

snapmirror-delete-sync-schedule

[top]

Delete a synchronous schedule for a given destination. This API must be executed on the destination filer.

Input Name	Range	Type	Description
destination-location		string	The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.

Vfiler-enabled
Yes

License
replicate

snapmirror-destroy

[top]

The snapmirror-destroy API removes only the SnapMirror relationship of a source volume and a destination volume, the volumes are not destroyed and Snapshot copies on the volumes are not removed. In case of a Vserver SnapMirror relationship, this API removes only the relationship between a source and destination Vserver. The Vservers are not destroyed. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. You must specify the destination endpoint when using snapmirror-destroy. On Data ONTAP 8.1 operating in Cluster-Mode, the snapmirror-destroy API fails if a SnapMirror transfer for the SnapMirror relationship is in progress. On Data ONTAP 8.2 operating in Cluster-Mode, the snapmirror-destroy API will attempt to abort any ongoing transfer. However, failure to abort the transfer will not cause the API to fail. A set of load-sharing mirrors might contain multiple destination volumes, each destination volume having a separate SnapMirror relationship with the common source volume. When used on one of the SnapMirror relationships from the set of load-sharing mirrors, the snapmirror-destroy API deletes the specified SnapMirror relationship from the set of load-sharing mirrors. The snapmirror-destroy API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection volume or a load-sharing volume that was a destination of a SnapMirror relationship retains its read-only attributes. Note: When a SnapMirror relationship from a set of load-sharing mirrors is deleted, the destination volume becomes a data protection volume and retains the read-only attributes of a data protection volume. On Data ONTAP 8.2 operating in Cluster-Mode, this API can only be issued on the

destination Vserver. The SnapMirror relationship information is deleted from destination Vserver, but no cleanup or deletion is performed on the source Vserver. The snapmirror-release API must be issued on the source Vserver to delete the relationship information on the source Vserver. On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on the source or on the destination cluster. When issued on the destination cluster, the SnapMirror relationship information on the source and destination clusters is deleted. When issued on the source cluster, only the SnapMirror relationship information on the source cluster is deleted. Note: If the SnapMirror relationship identified by the destination endpoint does not exist, this API will return success. This API is not supported if the destination end point is a Infinite Volume.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in

			Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
			Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:

source-volume		string optional	• The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-operation-id		uuid optional	Result Operation Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPILICENSE	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
ETRANSFER_IN_PROGRESS	
EANOTHER_OP_ACTIVE	
EDEST_VOL_LOCKED	

License
SnapMirror

snapmirror-destroy-async

[top]

The snapmirror-destroy-async API removes the SnapMirror relationship between a source and destination Infinite Volume or a source and destination Vserver. The volumes or Vservers themselves are not destroyed and Snapshot copies on the volumes are not removed. You must specify the destination endpoint when using snapmirror-destroy-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

For Infinite volume SnapMirror relationships,

- snapmirror-destroy-async API fails if a SnapMirror transfer for the relationship is in progress.
- snapmirror-destroy-async API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection

volume that was the destination of a SnapMirror relationship retains its read-only attributes.
- snapmirror-destroy-async API should be used from the destination cluster. When used in this fashion, the destination-side information will be cleaned up. The destination will also attempt to cleanup source-side information. If the source cluster is not available, the destination-side information will still be cleaned up.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

For Vserver SnapMirror relationships,

- snapmirror-destroy-async API can be issued even if a transfer is in progress for the relationship.
- snapmirror-destroy-async API preserves the subtype attribute of the Vserver. Therefore, a default Vserver that was the source of a SnapMirror relationship continues to be of subtype default, and a dp-destination Vserver that was a destination of a SnapMirror relationship continues to be of subtype dp-destination.
- snapmirror-destroy-async API should be used from the destination cluster. This will cleanup the destination-side information for the relationship.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the

			destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.

			This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	

License
SnapMirror

snapmirror-destroy-iter

[top]

Removes one or several SnapMirror relationships. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-destroy-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-destroy-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-get

[top]

The snapmirror-get API returns information for a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode this API can be issued on the source cluster or destination cluster of the relatonship. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver or the destination cluster of the relationship. The destination endpoint must be specified when using the snapmirror-get API.

Input Name	Range	Type	Description
desired-attributes		snapmirror-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.

			This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or

			later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Output Name	Range	Type	Description
attributes		snapmirror-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-get-destination

[top]

The snapmirror-get-destination API returns information about a SnapMirror relationship whose source endpoint is on the cluster or Vserver it is issued on. The destination endpoint must be specified when using this API. The source endpoint can also be specified.

The cluster or Vserver may have several entries for the specified endpoints, but with different relationship IDs. In this case the API returns information about the first entry. To get information about all the SnapMirror relationships matching the specified endpoints, the snapmirror-get-destination-iter API must be used.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode.

This API must be issued on the source Vserver or the source cluster of the relationship.

Input Name	Range	Type	Description
desired-attributes		snapmirror-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume.
destination-volume		string optional	Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter.
destination-vserver		string optional	Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter.

Output Name	Range	Type	Description
attributes		snapmirror-destination-info	The attributes of the snapmirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-get-destination-iter

[top]

The snapmirror-get-destination-iter API returns information about, one or more SnapMirror relationships whose source endpoints are in the Vserver or the cluster the API is issued on.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver. Stale information may result to several entries being returned with the same source and destination endpoints, but with different relationship IDs.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode. It can be issued on a Vserver or a Cluster.

Input Name	Range	Type	Description
desired-attributes		snapmirror-destination-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
expand		boolean optional	Show Constituents of the Group
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-destination-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-destination-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-get-dp-personality

[top]

The snapmirror-get-dp-personality API returns the Data Protection Personality (DP Personality) of the cluster.

This API is supported on Data ONTAP 9.1 or later.

Input Name	Range	Type	Description
desired-attributes		snapmirror-get-dp-personality optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		snapmirror-get-dp-	The attributes of the snapmirror.

		personality	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-get-iter

[top]

The snapmirror-get-iter API returns information for one or several SnapMirror relationships.

On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on a cluster. It returns all SnapMirror relationships that have a source or destination endpoint in that cluster, and that match the parameters specified. On Data ONTAP 8.2 operating in Cluster-Mode, this API can be issued on a Vserver or a cluster. It returns all the SnapMirror relationships, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified.

Input Name	Range	Type	Description
desired-attributes		snapmirror-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
expand		boolean optional	Show Constituents of the Group
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

snapmirror-get-status

[top]

Return the SnapMirror status. This API can be issued on either the source or destination filer.

Input Name	Range	Type	Description
location		string optional	The source location or destination location of the SnapMirror pair. Possible types are volume or qtree only. If this input is provided, only the SnapMirror relationships with a matching source or destination will be reported. The argument is invalid if the named location doesn't exist. In this case, snapmirror-status-info output will not be present. The argument can also be invalid if it is a flexclone name. (Be aware that the snapmirror-list-destinations API can return flexclone names.) Then snapmirror-get-status API will return a snapmirror-status output value with a "state" of "unknown". If the argument is not specified, all source, destination SnapMirror pairs are returned.

Output Name	Range	Type	Description
is-available		boolean	True if SnapMirror is available.
snapmirror-status		snapmirror-status-info[] optional	An array of SnapMirror pair status. If there are no transfers or schedules, then snapmirror-status is not returned. Any and all pairs whose source or destination location matches the input location will be in the output.

Vfiler-enabled
Yes

snapmirror-get-total-records

[top]

Obtain the total number of SnapMirror relationships. This is a point in time estimate and may be different on subsequent calls.

Output Name	Range	Type	Description
count	**[0..2^64-1]**	integer	The total number of snapmirror objects.

snapmirror-get-volume-status

[top]

Returns SnapMirror status values for a given volume. Including whether: the volume is a source of a SnapMirror relationship; the volume is a destination of a SnapMirror relationship; a transfer is in progress; the relationship is broken off. On Data ONTAP 8.1 operating in Cluster-Mode, this API is provided for backward compatibility only. It will fail if the volume is the source or destination of a load-sharing SnapMirror relationship. It is recommended to use the snapmirror-get-iter API to get the same information. On Data ONTAP 8.1 operating in Cluster-Mode, this API must be issued on the cluster the volume belongs to. This API is not supported On Data ONTAP 8.2 or later operating in Cluster-Mode. You must use the snapmirror-get-iter and snapmirror-get-destination-iter APIs. If issued on Data ONTAP 8.2 or later operating in Cluster-Mode, this API will return EOPNOTSUPPORTED error.

Input Name	Range	Type	Description
volume		string	Name of the volume to be queried. On Data ONTAP operating in Cluster-Mode, specifies the location of the volume the following formats: [<cluster>:][//<vserver>/]<volume>

Output Name	Range	Type	Description
is-destination		boolean optional	true if it was determined that the volume is a destination of a SnapMirror relationship. false otherwise
is-source		boolean optional	true if it was determined that the volume is a source of a SnapMirror relationship. false otherwise
is-transfer-broken		boolean optional	true if it was determined that the volume is a destination of a SnapMirror relationship that was broken off. The volume allows reads and writes. false otherwise
is-transfer-in-progress		boolean optional	true if it was determined that the volume is a source or a destination of a SnapMirror relationship that has a transfer going on. false otherwise

Errno	Description
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTLOCAL	
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOLUME_RELSTATUS_UNKNOWN	
EOPNOTSUPPORTED	
EVOL_RESTRICTED	

Vfiler-enabled
Yes

License
replicate

snapmirror-history-get

[top]

The snapmirror-history-get API returns information for a SnapMirror operation of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. The operation-id must be specified when using the snapmirror-history-get API. This API can be used only with Data ONTAP 8.3 (or later). The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

Input Name	Range	Type	Description
desired-attributes		snapmirror-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
			Specifies the destination endpoint of the SnapMirror relationship in the following format: • <[vserver:]volume> • <vserver:>

destination-location		string optional	This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified: • The name of the destination Vserver.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships: • The name of destination volume.
operation-id		string	A unique identifier assigned to a SnapMirror operation.

Output Name	Range	Type	Description
attributes		snapmirror-history-info	The attributes of the snapmirror.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	

snapmirror-history-get-iter

[top]

The snapmirror-history-get-iter API returns information for one or several SnapMirror operations of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. This API can be used only with Data ONTAP 8.3 (or later). It returns all the SnapMirror operations, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified. The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

Input Name	Range	Type	Description
desired-attributes		snapmirror-history-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-history-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned.

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-history-info[] optional	The list of attributes of snapmirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	

snapmirror-initialize

[top]

Performs the initial update of a SnapMirror relationship. You must specify the destination endpoint when using snapmirror-initialize. This API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, If the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP operating in Cluster-Mode, this API is usually used after the snapmirror-create API, but it can be used alone, that is, without the snapmirror-create API, for data protection relationships only, to create and initially update a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, for extended_data_protection relationships, a 32-bit volume cannot be the source or destination of the relationship.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to initialize a relationship between two volumes or two Vservers. 1. When volume names are specified, this API initializes a volume level relationship. 2. When Vserver names without volume names are specified, this API will initialize a relationship between two Vservers. This API can only be used for relationships between two Vservers after a successful snapmirror-create API. During initialize a baseline transfer of the Vserver is performed.

With Data ONTAP 9.1, this API can be used to initialize a relationship between a Data ONTAP volume

and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specified for initialize.

With Data ONTAP 9.3, this API can be used to initialize a relationship between a Data ONTAP volume and a SolidFire endpoint.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-snapshot		string optional	Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.

destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
is-adaptive		boolean optional	Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later.
is-auto-expand-enabled		boolean optional	Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the initialize is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.

			This format may change in the future. On Data ONTAP operating in Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used.
source-snapshot		string optional	Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-mode, and the snapshot on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new snapshot on the source for the transfer. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Vserver level SnapMirror relationships do not support this parameter.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
transfer-priority		string optional	Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-error-message		string optional	Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode.
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.
result-status		string optional	The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.

Errno	Description

ESNAPMIRROROFF	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPILICENSE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_ISNOT_LS_VOLUME	
ESOURCE_ISNOT_RW_VOLUME	
ESOURCE_IS_EXISTING_DEST_VOLUME	
EDEST_IS_EXISTING_DEST_VOLUME	
EOP_FROM_NONMGR_VSERVER	
EDEST_IS_RW_VOLUME	
ESOURCE_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_VSERVERS_DIFFERENT	
ESOURCE_IS_STRIPED_VOLUME	
EDEST_VOLUME_NOT_EMPTY	
ESOURCE_DEST_SAME	
ENOSNAPSHOT_COPY	
EVOLUMES_WITH_DIFF_STRIPES	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EANOTHER_OP_ACTIVE	
EDEST_IS_STRIPED_VOLUME	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
EDEST_NOT_DP_VSERVER	
EUNSUPPORTED_CONFIG	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_INCORRECT_SUBTYPE_DST	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_INCORRECT_SUBTYPE_SRC	
EVSERVERDR_SRC_SRC_OF_DR_RELATION	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_RELATIONSHIP_MODIFY_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_POLICY_LOOKUP_FAILED	
EVSERVERDR_ROOT_VOL_HAS_DATA	

Vfiler-enabled
Yes

License
replicate

snapmirror-initialize-iter

[top]

The snapmirror-initialize-iter API initializes the destination volume of one or more SnapMirror relationships. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
is-auto-expand-enabled		boolean optional	Is Auto Expand Enabled
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
source-		string	Designates the source Snapshot copy to use for a qtree update on Data ONTAP operating in 7-mode, and the Snapshot copy on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new Snapshot copy on the source for the transfer.

snapshot		optional	This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Vserver level SnapMirror relationships do not support this parameter.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values: • "low" , • "normal"

Output Name	Range	Type	Description
failure-list		snapmirror-initialize-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-initialize-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-initialize-ls-set

[top]

The snapmirror-initialize-ls-set API performs the initial manual update of a set of load-sharing mirrors. This API is usually used after the snapmirror-create API is used to create a SnapMirror relationship for each of the destination volumes in the set of load-sharing mirrors. You must specify the source endpoint when using snapmirror-initialize-ls-set. Data and Snapshot copies are transferred from the source volume to all up-to-date destination volumes in the set of load-sharing mirrors. Use the snapmirror-initialize API to add and initialize a new destination volume to an existing set of load-sharing mirrors. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description

source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter. This parameter may be optional if executed outside cluster context.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EAPIPRIVILEGE	
ESOURCE_IS_EXISTING_DEST_VOLUME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EANOTHER_OP_ACTIVE	
EVSERVER_OP_NOT_ALLOWED	

snapmirror-list-connections

[top]

Returns connection information for a given connection or all connections. The API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

Input Name	Range	Type	Description
connection		string optional	Connection name of the connection information to obtain. If the connections is not specified, then the connection information for all the connections is returned.

Output Name	Range	Type	Description
snapmirror-connections		snapmirror-connection-info[]	An array of SnapMirror connection information.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-destinations

[top]

Returns a list of destination locations and information about SnapMirror relationships for given source locations, which can be a volume name or qtree path. This API must be issued on the source filer. This API is not supported for relationships with non-Data ONTAP endpoints.

Input Name	Range	Type	Description
source-location		string optional	Source location of the SnapMirror pair. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If the source-location is not specified, then all source, destination SnapMirror pairs are returned.

Output Name	Range	Type	Description
destinations		destination-info[]	A list of currently-known destinations on a source filer.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-schedule

[top]

Returns the schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

Input Name	Range	Type	Description
destination-location		string optional	The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned.

Output Name	Range	Type	Description
snapmirror-schedules		snapmirror-schedule-info[]	An array of SnapMirror schedule.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-sync-schedule

[top]

Returns a synchronous schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

Input Name	Range	Type	Description
destination-location		string optional	The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned.

Output Name	Range	Type	Description
snapmirror-sync-schedules		snapmirror-sync-schedule-info[]	An array of SnapMirror schedule.

Vfiler-enabled
Yes

License
replicate

snapmirror-list-unprotected

[top]

The snapmirror-list-unprotected API returns a list of unprotected volumes for the specified source Vserver.

Input Name	Range	Type	Description
desired-attributes		snapmirror-list-unprotected optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
source-vserver		string	Specifies the source Vserver for which to list unprotected volumes.

Output Name	Range	Type	Description
attributes		snapmirror-list-	The attributes of the snapmirror.

		unprotected	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

snapmirror-modify

[top]

The snapmirror-modify API changes one or more parameters of a SnapMirror relationship. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later.

You must specify the destination endpoint when using the snapmirror-modify API. For load-sharing mirrors, a change to a parameter affects all of the SnapMirror relationships in the set of load-sharing mirrors. Destination volumes in a set of load-sharing mirrors do not have individual parameter settings. Changes made by the snapmirror-modify API do not take effect until the next manual or scheduled update of the SnapMirror relationship. Changes do not affect updates that have started and have not finished yet. On Data ONTAP 8.1 operating in Cluster-Mode this API must be issued on the destination Cluster. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver if operating in a Vserver context and on the destination cluster if operating in a cluster context. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume

			are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
policy		sm-policy optional	Specifies the name of the SnapMirror policy that applies to this relationship.
schedule		string optional	Specifies the name of the cron schedule, used to update the SnapMirror relationship.
			Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:

source-cluster		string optional	• Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored.
vserver		vserver-name optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option.

Output Name	Range	Type	Description
result-operation-id		uuid optional	Result Operation Id

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_SAME	
ESOURCE_IS_DIFFERENT	
EOP_FROM_NONMGR_VSERVER	
ESCHEDULE_DOESNT_EXIST	
EANOTHER_OP_ACTIVE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_DST_IS_NOT_LOCAL	

snapmirror-modify-iter

[top]

The snapmirror-modify-iter API allows to change one or more parameters of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion

			will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
policy		sm-policy optional	Specifies the name of the SnapMirror policy that applies to this relationship.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
schedule		string optional	Specifies the name of the cron schedule, used to update the SnapMirror relationship.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored.
vserver		vserver-name optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option.

Output Name	Range	Type	Description
		snapmirror-modify-	Information about snapmirror objects that were not operated on

failure-list		iter-info[] optional	due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-modify-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-off

[top]

Disables SnapMirror data transfers and turns off the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

Vfiler-enabled
Yes

License
replicate

snapmirror-on

[top]

Enables SnapMirror data transfers and turns on the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

Vfiler-enabled
Yes

License
replicate

snapmirror-promote

[top]

The snapmirror-promote API performs a failover to the destination volume of a load-sharing SnapMirror relationship. This API changes the destination volume from a load-sharing volume to a read-write volume and makes the destination volume assume the identity of the source volume. The API then destroys the original source volume. The destination volume must be a load-sharing volume. However, you can still perform 'snapmirror-promote' on a destination load-sharing volume that has been left in read-write state by a previously failed promote operation. You must specify the destination endpoint when using snapmirror-promote. Note: The source volume and destination volume must be on the same Vserver for the promote to work. Client accesses are redirected from the original source volume to the promoted destination volume. The view clients see on the promoted destination volume is the latest transferred Snapshot copy, which might lag behind the view clients had of the original source volume before the promote. The SnapMirror relationship is usually deleted as part of the promotion process. This is not true for a set of load-sharing mirrors that contain more than one destination volume. In this case, the promoted destination volume becomes the new source volume to the set of load-sharing mirrors. It is possible that the original source volume is the source of multiple SnapMirror relationships. For such a configuration, the promoted destination volume becomes the new source volume of the other SnapMirror relationships. The snapmirror-promote API fails if a SnapMirror transfer is in progress for any SnapMirror relationship involving the original source volume.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.

destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The

			name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_ISNOT_RW_VOLUME	
ESOURCE_DEST_SAME	
ETRANSFER_IN_PROGRESS	
EANOTHER_OP_ACTIVE	
EDEST_VOL_LOCKED	
ESRC_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	

snapmirror-promote-iter

[top]

The snapmirror-promote-iter API performs failover for one or more SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
			When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API

max-failure-count	**[1..2^32-1]**	integer optional	will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-promote-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-promote-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-protect

[top]

The snapmirror-protect API protects the specified Vserver or a list of volumes. The snapmirror-protect API must be used from the destination cluster. It is supported for FlexVol, FlexGroup and Vserver endpoints. It is not supported for FlexGroup constituents, Infinite Volumes, Infinite Volume constituents, AltaVault, or SolidFire endpoints. When source volumes are specified they must be read-write (RW) volumes. This API is available in Data ONTAP 9.3 and later.

On Data ONTAP 9.4 and later, this API supports protecting FlexGroup endpoints.On Data ONTAP 9.7 and later, this API supports protecting Vserver endpoints. A job will be spawned to operate on the

snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
auto-initialize		boolean optional	Specifies whether or not an initialize should be started after each SnapMirror relationship is created. The default value for this parameter is true.
destination-volume-prefix		string optional	Specifies the destination volume name prefix.
destination-volume-suffix		string optional	Specifies the destination volume name suffix.
destination-vserver		xc-vs-name optional	Specifies the destination Vserver to be used for protection.
destination-vserver-ipspace		string optional	Specifies the IPspace the Vserver will be assigned to. If left unspecified, the Vserver will be assigned to the default IPspace. This parameter is supported while protecting a Vserver and is available in Data ONTAP 9.7 or later.
identity-preserve		boolean optional	Specifies whether Vserver protect is IDD or IDP.
path-list		snapmirror-path[]	Specifies the list of source endpoints to be protected.
policy		sm-policy	Specifies the name of the SnapMirror policy for the SnapMirror relationships.
schedule		string optional	Specifies the name of the cron schedule for the SnapMirror relationships.
source-cluster		cluster-name optional	Specifies the source cluster name. This parameter is valid only when only a single Vserver is specified in the path-list parameter. This parameter is supported on Data ONTAP 9.7 or later.
support-tiering		boolean optional	This parameter specifies whether or not FabricPools are selected when provisioning a FlexVol volume or FlexGroup volume during the protection workflows. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later.
tiering-policy		tieringpolicy-enum optional	Destination Volume Tiering Policy. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

EAPIMISSINGARGUMENT	

snapmirror-quiesce

[top]

Disables future transfers to a SnapMirror destination. If there is no transfer in progress, the SnapMirror relationship becomes 'Quiesced'. If there is a transfer in progress, the SnapMirror relationship becomes 'Quiescing' until the transfer completes. If the current transfer aborts, it will be treated like a future transfer and will not restart. When a SnapMirror relationship is quiesced, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination endpoint when using snapmirror-quiesce. The destination end point could be a:

- Volume in case of a volume level SnapMirror relationship
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.
- An AltaVault endpoint on Data ONTAP 9.1 or later.
- A SolidFire endpoint on Data ONTAP 9.3 or later.

On Data ONTAP 8.1 operating in Cluster-Mode, if applied to a load-sharing (LS) SnapMirror relationship, all the relationships in the set will be quiesced. This API must be issued from the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
			Specifies the destination volume of the SnapMirror relationship. This

destination-volume		string optional	parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationship with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-		string	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume.

vserver		optional	• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
ESOURCE_DEST_SAME	
ESOURCE_IS_DIFFERENT	
EOP_FROM_NONMGR_VSERVER	
EANOTHER_OP_ACTIVE	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	

Vfiler-enabled
Yes

License
replicate

snapmirror-quiesce-iter

[top]

Disables future transfers for one or more SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not

			provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-quiesce-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-quiesce-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-release

[top]

The snapmirror-release API removes a SnapMirror relationship on the source endpoint. It unlocks and cleanups the snapshots pertaining to the relationship. It does not destroy any volume. You must specify the destination endpoint when using snapmirror-release. The destination end-point could be a: (a) Volume for a volume level relationship (b) Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. Unless relationship-info-only is specified, this operation will fail if it is unable to reach the source volume and clean up snapshots. On Data ONTAP 8.3 or later, if operated on a Vserver SnapMirror relationship, relationships will be removed for all the volumes belonging to the Vserver. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be executed on the source Vserver or source cluster following the deletion of the relationship on the destination Vserver or destination cluster. It is possible to issue snapmirror-release on the source Vserver without deleting the relationship on the destination Vserver. However, the relationship will continue to exist because the destination is the authority. The relationship will reappear on the source on the next transfer. On Data ONTAP operating in

7-Mode, this API must be issued on the source storage system. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be issued on the source Vserver if operating in Vserver context and on the source cluster if operating in a cluster context. This API is not supported on Data ONTAP 8.1 operating in Cluster-Mode, or Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. This API is not supported for relationships with non-Data ONTAP endpoints.

Input Name	Range	Type	Description
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or destination Vserver and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. If using this parameter, the destination Vserver must also be specified. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the destination volume must also be specified. This parameter is mandatory if destination-location is not specified.
relationship-id		string optional	Specifies the relationship unique identifier of the SnapMirror relationship.
relationship-info-only		boolean optional	If relationship-info-only is set to true then only relationship information is removed. By default it is false.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.

			This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source Vserver, and source volume or the source Vserver.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the source Vserver must also be specified:
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the source volume must also be specified.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later.

Errno	Description
ESNAPMIRRORERR	
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPILICENSE	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
EVSERVERDR_SRC_IS_NOT_LOCAL	
EVSERVERDR_DST_VSERVER_LOCAL	
E_JOB_EXISTS	
EREL_SRC_INFO_NOT_FOUND	

Vfiler-enabled
Yes

snapmirror-release-iter

[top]

releases one or a group of SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1

max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-destination-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
relationship-info-only		boolean optional	If relationship-info-only is set to true then only relationship information is removed. By default it is false.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-release-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-release-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-restore

[top]

The snapmirror-restore API restores either the entire contents of a selected Snapshot copy or selected files or LUNs of a selected Snapshot copy from the source volume to the active file system (AFS) of the destination volume.

The snapmirror-restore API creates a temporary SnapMirror restore relationship. For this reason the destination volume cannot be the destination volume of another SnapMirror relationship. The temporary restore relationship is deleted after the operation completes successfully.

When restoring the entire contents of a Snapshot copy the following applies.

- If the destination volume is an empty data protection volume, the snapmirror-restore API performs a baseline restore. The baseline restore transfers the contents of the selected Snapshot copy from the source volume to the destination volume.
- If the destination volume is read-write an incremental restore is performed. A read-write destination volume must have at least one Snapshot copy which also appears on the source volume.

  A read-write destination volume is converted to a data-protection volume for the duration of the operation. When the destination volume is converted to a data-protection volume the latest Snapshot copy on destination volume is made the exported Snapshot copy. Note, that any data written to the destination volume since the last Snapshot copy is lost during this operation. To save the contents of the AFS on the destination volume, stop all client access and create a new Snapshot copy before starting this operation.

  During an incremental restore a common Snapshot copy is selected. The Snapshot copy chosen as the common Snapshot copy must be on the source and destination volumes. The contents of the common Snapshot copy on the destination volume are copied to the AFS of the destination volume. Then the contents of the Snapshot copy to be restored are transferred from the source volume to the destination volume.

The destination volume is converted to a read-write volume after the contents of the Snapshot copy have been transferred to the AFS of the destination volume.

If the destination volume is not an empty data protection volume or a read-write volume with at least one Snapshot copy which also appears on the source volume, the command fails.

Unless 'source-snapshot' is specified the most recent Snapshot copy on the source volume is restored.

When restoring a list of files or LUNs of a Snapshot copy the following applies.

The destination volume must be a read-write volume and the state of the volume is not changed by the restore operation.

Use the 'file-list' parameter to indicate the files or LUNs to be restored. Access to the files or LUNs being restored on the destination volume is restricted during the operation.

If the file or LUN to which data is to be restored does not exist in the destination volume's AFS it will be created. When creating a file or LUN in the destination AFS, all directories in the path of the file or LUN being restored must exist and for a LUN the parent directory must also be the root of the destination volume or the root of a Qtree in the destination volume.

The 'source-snapshot' parameter is required when restoring a list of files or LUNs. Files or LUNs to be restored must exist in the source Snapshot copy.

If the file or LUN being restored exists in the destination volume's AFS but is not the same file or LUN as in the source Snapshot copy, the contents of the file or LUN in the destination volume AFS will be overwritten but the file or LUN will retain its inode and for a LUN its identity as well. If the file or LUN being restored exists in the destination volume AFS it must be the same type as the file or LUN in the source Snapshot copy. Overwriting a file with a LUN or LUN with a file is not supported.

The 'create-check-snapshot' parameter is supported only when restoring files or LUNs and should be used only if the contents of the files or LUNs restored are to be verified using the 'snapmirror-check' API.

This API may be used to restart a failed snapmirror-restore operation.

This API may be used to terminate an aborted or failed snapmirror-restore operation by specifying the 'clean-up-failure' parameter set to 'true'. Terminating an aborted or failed snapmirror-restore operation deletes any residual temporary restore relationship.

Terminating an operation restoring the entire contents of a Snapshot copy converts the destination volume back to being read-write if the destination volume was read-write prior to the initial snapmirror-restore operation while removing any data transferred or copied during the snapmirror-restore

operation.

On Data ONTAP 9.1, only the SnapMirror source can be an AltaVault endpoint and the destination must be a Data ONTAP volume.

On Data ONTAP 9.4 and later, this API supports FlexGroup endpoints.

Terminating an operation restoring files or LUNs of a Snapshot copy deletes any files whose contents were partially restored but does not delete partially restored LUNs. Access restriction to the partially restored LUNs is not removed. Such a LUN may be deleted using the 'lun-destroy' API with the 'destroy-fenced-lun' parameter. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
cg-item-mappings		cg-item-mapping[] optional	Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,...
clean-up-failure		boolean optional	Use this parameter with the value of 'true' to recover from an aborted or failed restore operation. If the destination volume was read-write prior to the failed or aborted restore operation, it is converted back to read-write if necessary while removing all data transferred or copied during the restore operation. Any residual temporary restore relationship is also removed from the destination Vserver. An attempt is made to remove any residual temporary restore relationship from the source Vserver. The default value for this parameter is 'false'.
create-check-snapshot		boolean optional	If this parameter is specified with the value of 'true' a Snapshot copy is created on the destination volume. The purpose of this Snapshot copy is for verifying the contents of files or LUNs restored using the 'snapmirror-check' API. The name of the Snapshot copy created is of the form 'snapmirrorCHK.<destination volume Vserver UUID>.<destination volume msid>.<time_stamp>'. Once the Snapshot copy is no longer needed for verifying data it is the responsibility of the user to delete the Snapshot copy. This parameter is only available on Data ONTAP 8.3 or later.
destination-cluster		cluster-name optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
			Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using

destination-location		snapmirror-path optional	a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
destination-volume		volume-name-nolink optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		xc-vs-name optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified.
disable-storage-		boolean	The default behavior of restore is to preserve storage efficiency when possible. Use this parameter with a value of 'true' to turn off storage efficiency for data transferred

efficiency		optional	over the wire and written to the destination volume. The default value for this parameter is false.
max-transfer-rate		integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
on-demand-attrs		smondemandattrs optional	This parameter specifies the attributes to be used when restoring on demand from an object store endpoint. Possible values are: 'off', 'read-only-without-data-pull' and 'read-write-with-metadata-pull'. The default value for this parameter is 'off', which means the on demand restore feature is turned off. 'read-only-without-data-pull' means that the volume being restored to will be read-only and data from the object store will not be pulled in the background. 'read-write-with-metadata-pull' means that the volume being restored to will be read-write enabled and all the volume metadata will be pulled from the object store in the background. This parameter is only available on Data ONTAP 9.7 or later.
restore-file-list		snapmirror-file-path[] optional	Specifies the files or LUNs of the Snapshot copy to be restored and the location to which the files or LUNs are restored in the active file system (AFS) on the destination volume. May contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to which data is restored in the destination volume's AFS is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the destination volume, e.g. @ /file1 or @ /dira/lun1. File restore is not supported if the source-path or destination-path contains commas in its directory or file name. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. Example: <snapmirror-file-path>/file1</snapmirror-file-path> will restore /file1 to the same path on the destination volume's AFS while <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will restore the data to /dst_file1 on the destination volume's AFS. This parameter is only available on Data ONTAP 8.3 or later.
source-cluster		cluster-name optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

source-location		snapmirror-path optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode.
source-snapshot		string optional	Specifies the Snapshot from the source to be restored.
source-volume		volume-name-nolink optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.
source-vserver		xc-vs-name optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

			• This parameter is mandatory if source-location is not specified.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. Possible values are: 'normal', and 'low'. The default value for this parameter is 'normal'.
tries		string optional	Specifies the total number of attempts to transfer data. Valid input is a positive integer or 'unlimited'. The default is '8'.
use-network-compression		boolean optional	Specifies whether network compression is used for transfer of data. The default value is 'false'. This parameter is only available on Data ONTAP 8.3 or later. This parameter is not supported for relationships with non-Data ONTAP endpoints.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_CACHE_VOLUME	
EDEST_IS_VOLUME_CLONE	
ESOURCE_IS_DIFFERENT	
EDEST_IS_LS_VOLUME	
EDEST_VOL_LOCKED	

License
SnapMirror

snapmirror-resume

[top]

Enables future transfers for a SnapMirror relationship that has been quiesced. If there is a scheduled transfer, it will be triggered on the next schedule. If there is a restart checkpoint, it will be re-used if possible. On Data ONTAP Cluster-Mode, If applied on a load-sharing SnapMirror relationship, transfers will resume for all the relationships of the set. With Data ONTAP 8.3 or later, if executed on a Vserver SnapMirror relationship, transfers will resume for all the volumes belonging to the Vserver. When a quiesced SnapMirror relationship is resumed, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination end point when using snapmirror-resume. The destination end-point could be a: (a) Volume for a volume level relationship (b)

Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. (c) Non-Data ONTAP destination on Data ONTAP 9.1 or later. This API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.

			This parameter is mandatory if destination-location is not specified.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.

Output Name	Range	Type	Description
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	

ESOURCE_DEST_SAME	
ESOURCE_IS_DIFFERENT	
EOP_FROM_NONMGR_VSERVER	
ERELATION_NOT_QUIESCED	
EANOTHER_OP_ACTIVE	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	

Vfiler-enabled
Yes

License
replicate

snapmirror-resume-iter

[top]

Enables future transfers for one or more SnapMirror relationships.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapmirror-resume-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query and were successfully processed.
success-list		snapmirror-resume-iter-info[] optional	The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-resync

[top]

Re-establishes a mirroring relationship between

- A source volume and a destination volume.
- A source Vserver and a destination Vserver in case of a Vserver Snapmiror relationship on Data ONTAP 8.3 or later.

On Data ONTAP operating in Cluster-Mode this API is usually used on existing SnapMirror relationships, but it can be used, for data protection relationships only, to create a SnapMirror relationship in addition to performing the resync operation.

Typically, the snapmirror-resync API is executed in the following cases:

- The destination mirror is broken (that is, the destination volume is a read-write volume and no longer a data protection mirror). After the snapmirror-resync API completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates.
- A snapmirror-update API failed because the required common Snapshot copy was deleted on the source volume.

Typically, for a Vserver SnapMirror relationship, a resync is executed when the Vserver SnapMirror relationship is broken-off and the destination Vserver is of subtype default. It establishes the Vserver level relationship by

- Creating new volumes at the destination. (volumes are present at the source Vserver but not present at the destination Vserver)
- Creating volume level SnapMirror relationships.
- Initializing the newly created volume relationships.
- Performing a resync for volumes which have common snapshots.

The destination Vserver after resync, is of sub-type dp-destination. After the operation completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates. **Attention:** The snapmirror-resync API can cause data loss on the destination volume because the API can remove the exported Snapshot copy on the destination volume.

The default behavior of the snapmirror-resync API is defined as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, removes Snapshot copies on the destination volume that are newer than the common Snapshot copy and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- For data protection and extended data protection relationships with policy type other than vault, takes a Snapshot copy of the source volume to capture the current image and transfers Snapshot copies that are newer than the common Snapshot copy from the source volume to the destination volume. For extended data protection relationships, transfers Snapshot copies newer than the common Snapshot copy according to the relationship policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy API. For relationships associated with the policy type of async-mirror or mirror-vault, the snapmirror-resync API first takes a Snapshot copy of the source volume and includes it in the Snapshot copies selected for transfer.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the snapmirror-resync API supports an optional parameter 'preserve'. The parameter 'preserve' is only supported for extended data protection relationships with policy type mirror-vault or vault. When used, the parameter 'preserve' changes the behavior of the snapmirror-resync API. The changed behavior can be described as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, preserves all Snapshot copies on the destination volume that are newer than the common Snapshot copy, and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- Performs a local rollback transfer to make a copy of the common Snapshot copy on the destination volume and establish it as the latest Snapshot copy on the destination volume. The command then transfers all Snapshot copies that are newer than the common Snapshot copy, from the source volume to the destination volume. The command only transfers Snapshot copies that match the relationship's policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy APIs.

The snapmirror-resync API fails if the destination volume does not have a Snapshot copy in common with the source volume.

On Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode, a job is spawned to operate for the SnapMirror relationship and the job id is returned. The progress of the operation can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

On Data ONTAP operating in 7-Mode, the update is asynchronously handled, and there is no guarantee that it succeeds. This requires that a schedule in /etc/snapmirror.conf is set for the destination.

The API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

With Data ONTAP 9.1, this API can be used to resync a Data ONTAP source volume and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for resync.

With Data ONTAP 9.3, this API can be used to resync a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-snapshot		string optional	Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-vserver		string optional	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
is-adaptive		boolean	Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This

		optional	parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later.
is-auto-expand-enabled		boolean optional	Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the resync is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later.
max-transfer-rate		integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
preserve		boolean optional	This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all snapshots on the destination that are newer than the latest common snapshot will be deleted. If preserve is specified, newer snapshots are retained. If preserve is specified for any other relationships the API will fail. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault. This parameter is not supported for relationships with non-Data ONTAP endpoints.
quick-resync		boolean optional	If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false. This parameter is not supported for data protection and load-sharing relationships. This parameter only applies on Data ONTAP 8.3 or later. This parameter is not supported for relationships with non-Data ONTAP endpoints.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
			Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating

source-location		string optional	in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used.
source-snapshot		string optional	Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-Mode, and the snapshot on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
transfer-priority		string optional	Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-error-message		string optional	Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. This parameter should be used to monitor the transfer progress. But, on Data ONTAP 8.2 operating in Cluster-Mode, it should be ignored if the relationship-control-plane is not 'v1'. The snapmirror-get API should be used to monitor the progress of the transfer.
result-operation-id		string optional	Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIMISSINGARGUMENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_CACHE_VOLUME	
EDEST_IS_VOLUME_CLONE	
ESOURCE_IS_DIFFERENT	
EDEST_IS_LS_VOLUME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EANOTHER_OP_ACTIVE	
ESOURCE_IS_STRIPED_VOLUME	
EDEST_IS_STRIPED_VOLUME	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
EVSERVER_NOT_PEERED	
EUNSUPPORTED_CONFIG	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_INCORRECT_SUBTYPE_SRC	
EVSERVERDR_ANOTHER_SRC_IN_RELATION	
EVSERVERDR_SRC_SRC_OF_DR_RELATION	
EVSERVERDR_REVERSE_TRANSFER_OPERATION	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_ADDITIONAL_VOLUMES_ON_DST	

EVSERVERDR_VOLUME_NAME_MISMATCH	
EVSERVERDR_VSERVER_MODIFY_FAILED	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_POLICY_LOOKUP_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	
EVSERVERDR_RELATIONSHIP_MODIFY_FAILED	
EVSERVERDR_LS_SRC_IN_DST	
EVSERVERDR_VSM_LOOKUP_FAILED	
EVSERVERDR_BREAK_INCOMPLETE	
EVSERVERDR_ROOT_VOL_HAS_DATA	

Vfiler-enabled
Yes

License
replicate

snapmirror-resync-iter

[top]

The snapmirror-resync-iter API establishes or reestablishes one or more SnapMirror relationships between a source and a destination endpoint. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
is-auto-expand-enabled		boolean optional	Is Auto Expand Enabled
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-	**[0..2^32-**	integer	Specifies the upper bound, in kilobytes per second, at which data is transferred between clusters. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the

transfer-rate	**1]**	optional	max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
preserve		boolean optional	This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all Snapshot copies on the destination that are newer than the latest common Snapshot copy will be deleted. If preserve is specified, newer Snapshot copies are retained. If preserve is specified for any other relationships the API will fail. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
quick-resync		boolean optional	If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false. This parameter is not supported for data protection and load-sharing relationships. This parameter only applies on Data ONTAP 8.3 or later.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
source-snapshot		string optional	Designates the source Snapshot copies to use for a qtree update on Data ONTAP operating in 7-Mode, and the Snapshot copy on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.
			Specify the tag from the last call. It is usually not specified for

tag		string optional	the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values: • "low" , • "normal"

Output Name	Range	Type	Description
failure-list		snapmirror-resync-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	[0..2^32-1]	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-resync-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

License
SnapMirror

snapmirror-set-connection

[top]

Sets up a connection. snapmirror-set-connection will add a new connection or modify an existing one. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

Input Name	Range	Type	Description
address-pair1		address-pair	The connection's first source and destination address pair. In multi mode, the first address pair provides a connection path; while in failover mode, the first address pair provides the prefer connection path.
address-pair2		address-pair optional	The connection's second source and destination address pair. In multi mode the second address pair provides another connection path, while in failover mode, the second address pair provides a connection path in case the first path fails.
connection		string	Name of the connection to add or modify. The name is in ASCII and must begin with an alpha character.
mode		string optional	Possible mode values are "multi" or "failover". If not specified, the default is "multi".

Vfiler-enabled
Yes

License
replicate

snapmirror-set-schedule

[top]

Sets the schedule for a given destination. The API must be executed on the destination filer. Currently, the schedule is in /etc/snapmirror.conf.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establishing connection between source and destination. Possible values are "inet", "inet6" and "default". If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
days-of-month		string	Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match day 1; • 1,3 := match day 1 and 3; • 2-5 := match day 2,3,4,5; • 1-30/7 := match day 1,8,15,22,29; • * := matches all possible legal values;
days-of-week		string	Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match day 1 (Mon); • 1,3 := match day 1 and 3 (Mon and Wed); • 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri); • * := matches all possible legal values;
destination-location		string	The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
			Hours in the day for which the schedule is set. The form is crontab-like,

hours		string	with possible values of: • - := match nothing; • 1 := match hour 1; • 1,3 := match hour 1 and 3; • 2-5 := match hour 2,3,4,5; • 1-24/3 := match hour 1,4,7,10,13,16,19,22; • * := matches all possible legal values;
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message.
max-transfer-rate		integer optional	Maximum transfer rate in kilobytes per second. If specified as 0, transfer happens as fast as the storage system can. If not specified, the previous value is retained. If nothing was mentioned previously, it is set to the default value.
minutes		string	Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match minute 1; • 1,3 := match minute 1 and 3; • 2-5 := match minute 2,3,4,5; • 1-12/3 := match minute 1,4,7,10; • 0-55/5 := match minute 0,5,10,15,20,25,30,35,40,45,50,55; • * := matches all possible legal values;
restart		string optional	restart mode when transfer is interrupted. Possible values are "always", "never" and "default". If value is set to "always", then an interrupted transfer will always restart, if it has a restart check point and the conditions are the same as before the transfer was interrupted. If value is set to "never", then an interrupted transfer will never restart, even if it has a restart checkpoint. If not specified, the previous value is retained. If nothing was mentioned previously, then it is set to default, where SnapMirror behaves like the "always" case, unless it has passed the next scheduled transfer time, in which case it will begin that scheduled transfer instead of restarting.
source-location		string	The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
tcp-window-size		integer optional	TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained.

Vfiler-enabled

Yes

License

replicate

snapmirror-set-sync-schedule

[top]

Establishes a synchronous or semi-synchronous schedule. Currently, the schedules are in: /etc/snapmirror.conf. Semi-synchronous mode is determined by specifying semi-sync.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establishing connection between source and destination. If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection-mode do not match, the operation will fail with proper error message.
destination-location		string	The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message.
ops-throttle		string optional	The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode. If not specified, the previous value is retained. This is a deprecated parameter. Use the sync-mode parameter instead to specify the sync mode.
source-location		string	The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
sync-mode		string optional	This specifies whether the mirror should be configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". If the user wants to configure the mirror to run in fully synchronous mode, the user must specify "full_sync" as the value for this parameter. If the user wants to configure the mirror to run in semi-synchronous mode, the user must specify "semi_sync" as the value of this parameter. If not specified, the mirror will be configured to run in full synchronous mode. This parameter overrides the deprecated ops-throttle parameter.
tcp-window-size		integer optional	TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained.
visibility-		integer	Controls how often the source snapspot will be visible on the destination mirror. This input is used to control the value of visibility_interval in the

frequency			snapmirror.conf file. The units are in seconds. A typical value to use for this input is 180.

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snapmirror-snapshot-owner-create

[top]

Add an owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
snapshot		snapshot-id	Snapshot Copy Name
snapshot-owner-name		snapshot-owner-name optional	Specifies the name of the owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration. An owner can contain letters, numbers, and the underscore character (_), and can be at most 32 characters long. If no owner is specified, the system will assign an internal default owner to preserve the Snapshot copy.
volume		volume-name	Volume Name
vserver		vserver-name	Vserver Name

Errno	Description
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapmirror-snapshot-owner-destroy

[top]

Delete an owner used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
snapshot		snapshot-id	Snapshot Copy Name
snapshot-owner-name		snapshot-owner-name optional	The specified owner is removed from the Snapshot copy. If no owner name is provided, the system will look for and remove the internal default name for the owner. A specified owner of '*' removes all owners from the Snapshot copy.
volume		volume-name	Volume Name
vserver		vserver-name	Vserver Name

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapmirror-snapshot-owner-get

[top]

List all owners used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
snapshot		snapshot-id	Name of the snapshot.
volume		volume-name	Name of the volume to which this snapshot belongs.
vserver		vserver-name	Name of the vserver to which this volume belongs.

Output Name	Range	Type	Description
snapshot-owner-names		snapshot-owner-name[]	Returns the owner(s) used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-snapshot-owner-get-snapshots

[top]

List all Snapshot copies that are preserved for a SnapMirror mirror-to-vault cascade configuration.

Input Name	Range	Type	Description
volume		volume-name	Name of the volume to which this snapshot belongs.
vserver		vserver-name	Name of the vserver to which this volume belongs.

Output Name	Range	Type	Description
snapshots		snapshot-id[]	Returns the Snapshot copies that are preserved using owners for a SnapMirror mirror-to-vault cascade configuration.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-throttle

[top]

Changes the max transfer rate of an active transfer. The API can be issued to either the source or the destination filer.

Input Name	Range	Type	Description
destination-location		string	The destination location of the active transfer. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
max-transfer-rate		integer	Maximum transfer rate in kilobytes per second. A value '0' disables the throttle, ie. the filer will transfer as fast as it can. Range: 0..2^32-1

Errno	Description
ESNAPMIRRORERR	

Vfiler-enabled
Yes

License
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snapmirror-update

[top]

Updates the destination endpoint of the SnapMirror relationship. The update is asynchronously handled, and there is no guarantee that it will succeed.

On Data ONTAP operating in 7-Mode the snapmirror-get-status API can be used to check the status of the update. The API must be issued on the destination storage system.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode and for relationships using a control plane compatible with Data 8.1 operating Cluster-Mode (relationship-control-plane set 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to update a relationship between two volumes or two Vservers. 1. When volume names are specified, this API updates a volume level relationship. 2. When Vserver names without volume names are specified, this API will update a relationship between two Vservers.

With Data ONTAP 9.1, this API can be used to update a relationship between a Data ONTAP source volume and an AltaVault destination endpoint. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for update.

With Data ONTAP 9.3, this API can be used to update a relationship between a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

You must specify the destination endpoint when using snapmirror-update.

The API makes the destination endpoint or non-Data ONTAP destination an up-to-date mirror of the

source endpoint.

This API must be used from the destination storage system on Data ONTAP 7-Mode, or from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP Cluster-Mode if the destination volume or non-Data ONTAP endpoint is empty, the snapmirror-update API will fail. The snapmirror-initialize API must be called to perform the baseline transfer before the snapmirror-update can be called.

For data protection relationships, the snapmirror-update API makes the destination volume an up-to-date mirror of the source volume with the following steps:

- If the source volume is read-write, takes a Snapshot copy on the source volume to capture the current image of the source volume.
- Finds the most recent Snapshot copy on the destination volume and validates that the corresponding Snapshot copy is on the source.
- Incrementally transfers Snapshot copies that are newer than the corresponding Snapshot copy to the destination volume.

For extended data protection relationships with policy type vault, the snapmirror-update API does not take a Snapshot copy on the source volume. For extended data protection relationships with policy type as mirror-vault, the snapmirror-update API takes a Snapshot copy on the source volume. But both of them transfer only selected Snapshot copies that are newer than the common Snapshot copy to the destination volume. Snapshot copies are selected by matching their 'snapmirror-label' with the 'snapmirror-label' of one of the rules from the corresponding SnapMirror policy associated with the SnapMirror relationship. All matching Snapshot copies are incrementally transferred to the destination volume.

For extended data protection relationships with policy type as vault or mirror-vault, the snapmirror-update API also manages expiration of Snapshot copies on the destination volume. It does so by deleting Snapshot copies that have exceeded the value of 'keep' for the matching rule from the corresponding SnapMirror policy associated with the SnapMirror relationship. Snapshot copies that match the same 'snapmirror-label' will be deleted in oldest-first order.

For data protection relationships, the parameter 'source-snapshot' is optional and allows for the transfer of Snapshot copies newer than the common Snapshot copy up to the specified 'source-snapshot'.

For extended data protection relationships, the parameter 'source-snapshot' is optional and allows transfer of a Snapshot copy that is older than the common Snapshot copy and/or may not be selected for transfer based on policy-based selection of an update transfer.

After the snapmirror-update API successfully completes, the last Snapshot copy transferred is made the new exported Snapshot copy on the destination volume. If an update to an extended data protection relationship specifies a Snapshot copy using the 'source-snapshot' parameter that is older than the common snapshot, after the snapmirror-update API successfully completes, the exported Snapshot copy on the destination volume will remain unchanged.

If the snapmirror-update does not finish successfully, due to a network failure or because a snapmirror-abort API was issued for example, a restart checkpoint might be recorded on the destination volume. If a restart checkpoint is recorded, the next update restarts and continues the transfer from the restart checkpoint. For extended data protection relationships, the next update will restart and continue the old transfer regardless of whether it is a matching Snapshot copy or not.

On Data ONTAP 8.1 operating in Cluster-Mode, you can use the snapmirror-update API to update a specific load-sharing mirror that lags behind up-to-date destination volumes in the set of load-sharing mirrors. An update to the lagging load-sharing mirror should bring it up to date with the other up-to-date destination volumes in the set of load-sharing mirrors. Note: You might have to run the snapmirror-update API more than once if the command does not finish before the next scheduled

update of the set of load-sharing mirrors.

Input Name	Range	Type	Description
destination-cluster		string optional	Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint.
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint. This format may change in the future. On Data ONTAP Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. On Data ONTAP 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified.
destination-snapshot		string optional	Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over.
destination-volume		string optional	Specifies the destination volume of the SnapMirror relationship. This paramter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.
destination-		string	Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: • The name of the destination volume.

vserver		optional	• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. This parameter is mandatory if destination-location is not specified.
enable-storage-efficiency		boolean optional	Enables storage efficiency on an extended data protection relationship with policy type vault which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume. The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this extended data protection relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient. The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency. This paramter is not supported for relationships with non-Data ONTAP endpoints.
max-transfer-rate		integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the following formats: • <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source. This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source

			location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used.
source-snapshot		string optional	Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships. For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead. For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules. Vserver level SnapMirror relationships do not support this parameter.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: • The name of the source volume. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.
transfer-priority		string optional	Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-error-message		string optional	Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode.
			Operation unique identifier of the SnapMirror operation. This field is

result-operation-id		string optional	only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid.
result-status		string optional	The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_IS_DIFFERENT	
EDEST_ISNOT_LOCAL_VOLUME	
EDEST_IS_LS_VOLUME	
EOP_FROM_NONMGR_VSERVER	
ESOURCE_DEST_SAME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EDEST_VOL_LOCKED	
EVSERVER_OP_NOT_ALLOWED	
ETRANSFER_IN_PROGRESS	
EVSERVERDR_DST_IS_NOT_LOCAL	
EVSERVERDR_INCORRECT_SUBTYPE_DST	
EVSERVERDR_CANNOT_FIND_RELATIONSHIP	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS	
EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE	
EVSERVERDR_MIRROR_STATUS_DELETING	
EVSERVERDR_SNAPNAME_GEN_FAILED	
EVSERVERDR_POLICY_LOOKUP_FAILED	
EVSERVERDR_QUEUEING_TO_PROCESS_FAILED	
EVSERVERDR_BREAK_INCOMPLETE	

Vfiler-enabled
Yes

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snapmirror-update-iter

[top]

The snapmirror-update-iter API updates the destination volumes of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The

progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false
enable-storage-efficiency		boolean optional	Enables storage efficiency on a vault relationship which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume. The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this vault relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient. The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency.
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of snapmirror objects to be operated in this call. Default: 20
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster.
query		snapmirror-info	If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true
			Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships.

source-snapshot		string optional	For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead. For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred. For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules. Vserver level SnapMirror relationships do not support this parameter.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values: • "low" , • "normal"

Output Name	Range	Type	Description
failure-list		snapmirror-update-iter-info[] optional	Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed.
success-list		snapmirror-update-iter-info[] optional	The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	

snapmirror-update-ls-set

[top]

The snapmirror-update-ls-set API updates destination volumes of the set of load-sharing mirrors. The API makes destination volumes, in the group of load-sharing mirrors, up-to-date mirrors of the source volume. You must specify the source endpoint when using snapmirror-update-ls-set. Separate SnapMirror transfers are performed from the source volume to each of the up-to-date destination volumes in the set of load-sharing mirrors. Load-sharing mirrors that lag behind the up-to-date destination volumes might not be updated by the snapmirror-update-ls-set API. Use the snapmirror-update API to update a lagging load-sharing mirror. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
source-cluster		string optional	Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter.
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume.
source-volume		string optional	Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter.
source-vserver		string optional	Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EAPIPRIVILEGE	
EAPIMISSINGARGUMENT	
ESOURCE_ISNOT_LOCAL_VOLUME	
ESOURCE_IS_EXISTING_DEST_VOLUME	
ETRIES_COUNT_IS_ZERO	
ERELATION_IS_QUIESCED	
EVSERVER_OP_NOT_ALLOWED	

Element definition: **address-pair**

[top]

Source and destination address pair.

Name	Range	Type	Description
destination-addr		string	Destination address in the form of filer name or IP address.

source-addr		string	Source address in the form of filer name or IP address.

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cg-item-mapping**

[top]

Snapmirror Consistency Group Item Mapping

[none]

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **destination-info**

[top]

Source location, destination location, and source snapshot of a snapmirrored pair.

Name	Range	Type	Description
destination-location		string	Destination location of the snapmirrored pair. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree> or the clone form: <filer>:<volume>-> [clone:<clone_name>].
source-location		string	The source location of the snapmirrored pair. The source location is of the volume form: <filer>:<volume>, or it is of the qtree form: <filer>:/vol/<volume>/<qtree>. In versions of ONTAP earlier than 7.0, there was a bug which omitted the filer name, so the volume form is: <volume>, and the qtree form is: /vol/<volume>/<qtree>.
source-snapshot		string	The source snapshot.

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-transfer-priority-enum** [top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

Element definition: **smendpointtype** [top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

Element definition: **smondemandattrs** [top]

off|read-only-without-data-pull|read-write-with-metadata-pull|read-write-with-user-data-pull Possible values:

- "off" ,
- "read_only_without_data_pull" ,
- "read_write_with_metadata_pull" ,
- "read_write_with_user_data_pull"

[none]

Element definition: **snapmirror-abort-iter-info** [top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-		uuid	

operation-id		optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-break-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-capabilities-info**

[top]

Capabilities information for a single endpoint type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
endpoint-type		smendpointtype optional	Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Attributes: key, non-creatable, non-modifiable Possible values: • "flexvol" , • "object_store"
is-dpo-destination-enabled		boolean optional	Whether or not this cluster has a DP_Optimized (Data Protection Optimized) license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable
is-dpo-source-enabled		boolean optional	Whether or not this cluster supports bypassing source SnapMirror license checking if the destination cluster for a SnapMirror relationship has a DP_Optimized (Data Protection Optimized) license installed. Some hardware platforms support this bypassing and some do not. If one or more nodes support bypassing, the value is true, otherwise it is false. Attributes: non-

			creatable, non-modifiable
is-snaplock-licensed		boolean optional	Whether or not this cluster has a SnapLock license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable
snapmirror-policy-types		snapmirror-policy-cap-info[] optional	Capabilities information for policy types.

Element definition: **snapmirror-check-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapmirror-connection-info**

[top]

Information about one connection.

Name	Range	Type	Description
address-pair1		address-pair	The first source and destination address pair.
address-pair2		address-pair optional	The second source and destination address pair.
mode		string	Connection mode. Possible values are: "multi" and "failover".
name		string	Name of the connection. The name is in ASCII and must begin with an alpha character.
snapmirror-error		snapmirror-error optional	Present if there is an error for a snapmirror connection.

Element definition: **snapmirror-cr-status-aggregate-eligibility-info**

[top]

SnapMirror Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		aggr-name optional	The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable
comment		string optional	If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable
hosted-configuration-replication-volumes		volume-name[] optional	The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable
is-eligible-to-host-additional-volumes		boolean optional	Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-cr-status-comm-info**

[top]

Results of the SnapMirror config replication communication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
heartbeat-recovery-steps		string optional	Recovery steps in case the check finds a problem with the peer cluster heartbeat. Attributes: non-creatable, non-modifiable
last-heartbeat-received		datetime optional	The timestamp of the last SnapMirror configuration replication hearbeat received from the peer cluster. Attributes: non-creatable, non-modifiable
last-heartbeat-sent		datetime optional	The timestamp of the last SnapMirror configuration replication heartbeat sent to the peer cluster. Attributes: non-creatable, non-modifiable
peer-cluster		string optional	The peer cluster destination for SnapMirror configuration replication. Attributes: non-creatable, non-modifiable
peer-cluster-uuid		string optional	The UUID of the peer cluster destination for SnapMirror configuration replication. Attributes: key, non-creatable, non-modifiable
			Verifies that the SnapMirror configuration replication heartbeat to the

remote-heartbeat		string optional	peer cluster is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

Element definition: **snapmirror-cr-status-info**

[top]

Results of the SnapMirror config replication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Verifies that SnapMirror configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable
is-running		boolean optional	Verifies that SnapMirror configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable
recovery-steps		string optional	Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable
storage-in-use		string optional	The location of SnapMirror configuration replication storage. Examples: • Node Local on node-123 • Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A • Unavailable Attributes: non-creatable, non-modifiable
storage-non-healthy-reason		string optional	The underlying root cause for non-healthy SnapMirror configuration replication storage. Attributes: non-creatable, non-modifiable
storage-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable
storage-status		string optional	Verifies that SnapMirror configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable
vserver-recovery-steps		string optional	Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable

vserver-streams		string optional	Verifies that SnapMirror configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values: • "ok" - Check passed, • "warning" - Check failed, • "not_run" - Check could not be run, • "not_applicable" - Check is not applicable

Element definition: **snapmirror-cr-storage-info**

[top]

Snapmirror Config-Replication Storage info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disallowed-aggregates		aggr-name[] optional	Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable
use-mirrored-aggregate		boolean optional	Specifies whether mirrored aggregates are currently in use by Async Vserver DR configuration replication. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cg-item-mappings		string[] optional	Specifies a list of the Consistency Group (CG) item mappings. This parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable
			Specifies the destination endpoint of the SnapMirror relationship in

destination-location		string optional	the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable
destination-volume		string optional	Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
policy-type		string optional	The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"
progress-last-updated	**[0..2^31-1]**	integer optional	Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup" , • "vserverflexgroup"
relationship-id		string optional	Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable
			Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the

relationship-status		string optional	node hosting the source volume joined the quorum. Possible values are: • 'idle', • 'transferring' This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
source-volume-node		string optional	Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
transfer-progress	**[0..2^63-1]**	integer optional	Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-destroy-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-file-path**

[top]

Snapmirror File Path

[none]

Element definition: **snapmirror-get-dp-personality**

[top]

SnapMirror Data Protection Personality When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-dp-personality		string optional	DP Personality. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-history-info**

[top]

SnapMirror history When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
additional-info		string optional	A message describing the cause of the failure or additional information about a successful operation such as if a checkpoint was cleared as part of an abort operation. Attributes: non-creatable, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the following format: • <[vserver:]volume> • <vserver:> This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships. Attributes: key, non-creatable, non-modifiable
destination-		string	Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified:

volume		optional	• The name of the destination Vserver. Attributes: key, non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships: • The name of destination volume. Attributes: key, non-creatable, non-modifiable
end-time		datetime optional	The timestamp of the end time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
operation-id		string optional	A unique identifier assigned to a SnapMirror operation. Attributes: key, non-creatable, non-modifiable
operation-type		string optional	The type of the operation happened on the relationship. Attributes: non-creatable, non-modifiable Possible values: • "create" - Snapmirror Create, • "modify" - Snapmirror Modify, • "quiesce" - Snapmirror Quiesce, • "resume" - Snapmirror Resume, • "delete" - Snapmirror Delete, • "initialize" - Snapmirror Initialize, • "manual_update" - Snapmirror Manual Update, • "scheduled_update" - Snapmirror Scheduled Update, • "break" - Snapmirror Break, • "resync" - Snapmirror Resync, • "abort" - Snapmirror Abort, • "restore" - Snapmirror Restore, • "automatic_resync" - Snapmirror Automatic Resync, • "failover" - Snapmirror Failover, • "rsetup" - Snapmirror Resync Setup, • "baseline_gather" - Snapmirror Baseline Gather
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup" , • "vserverflexgroup"
relationship-id		string optional	A unique identifier assigned to the SnapMirror relationship when it is created. This is not applicable for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable
result		string optional	Result of the SnapMirror operation. Attributes: non-creatable, non-modifiable Possible values: • "success" - Succesful Operation, • "failure" - Failed Operation
			Specifies the source endpoint of the SnapMirror relationship in the following format: • <[vserver:]volume> • <vserver:> This format depends on Vserver peering setup

source-location		string optional	between the source and destination Vservers. The source endpoint can be specified using the location format, or by specifying the parameters for the name of the source Vserver and the name of the source volume or the source Vserver for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. If using this parameter, the following parameter should also be specified: • The name of the source Vserver. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships: • The name of source volume. Attributes: non-creatable, non-modifiable
start-time		datetime optional	The timestamp of the start time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
transfer-size	**[0..2^63-1]**	integer optional	The total number of bytes transferred as part of the transfer operation. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
break-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
break-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
catalog-status		string optional	Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are: • 'idle' - No catalog metadata transfer is in progress, • 'transferring' - A catalog metadata transfer is in progress.

			This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-total-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-transfer-snapshot		string optional	Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
cg-item-mappings		string[] optional	Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable
current-max-transfer-rate	**[0..2^32-1]**	integer optional	The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-operation-id		string optional	Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-error		string optional	A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-priority		string optional	Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values: • "low" , • "normal"
current-transfer-type		string optional	The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" ,

			"cg_update" , • "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
destination-		string	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1

volume		optional	operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-volume-node		string optional	Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-vserver-uuid		string optional	A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
exported-snapshot		string optional	The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
exported-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
file-restore-file-count	**[0..2^64-1]**	integer optional	The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
file-restore-file-list		string[] optional	List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
identity-preserve		boolean optional	This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. Attributes: optional-for-create, non-modifiable
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data

			ONTAP 9.3 or later. Attributes: optional-for-create, modifiable
is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
is-healthy		boolean optional	False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable
lag-time	**[0..2^32-1]**	integer optional	The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-duration	**[0..2^32-1]**	integer optional	The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable
last-transfer-end-timestamp	**[0..2^31-1]**	integer optional	The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-error		string optional	A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-error-codes	**[0..2^32-1]**	integer[] optional	List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-from		string optional	The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
last-transfer-size	**[0..2^63-1]**	integer optional	The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
			The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:

last-transfer-type		string optional	• "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" , • "cg_update" , • "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable
mirror-state		string optional	Specifies the mirror state of the SnapMirror relationship. Possible values are: • 'uninitialized' - Destination volume has not been initialized, • 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates, • 'broken-off' - Destination volume is RW and snapshots are present. Attributes: non-creatable, non-modifiable
network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
newest-snapshot		string optional	The name of the newest Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
newest-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
opmask	**[0..2^64-1]**	integer optional	A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable

policy		string optional	Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable
policy-type		string optional	The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "active_sync_mirror"
progress-last-updated	**[0..2^31-1]**	integer optional	A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-control-plane		string optional	The type of the control plane used for the relationship. Possible values are: • 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations. • 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "none" ,

			• "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup"
relationship-id		string optional	A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
relationship-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-status		string optional	Specifies the status of the SnapMirror relationship. Possible values are: • 'idle' - Transfers are enabled, and no transfer is in progress, • 'transferring' - SnapMirror transfers are enabled and a transfer is in progress, • 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1', • 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled, • 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress, • 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system, • 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers, • 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers, • 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway, • 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values: • "data_protection" , • "load_sharing" , • "vault" , • "restore" , • "transition_data_protection" , • "extended_data_protection"
resync-	**[0..2^64-**	integer	The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving

failed-count	**1]**	optional	the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
resync-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
schedule		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable
snapshot-checkpoint	**[0..2^63-1]**	integer optional	The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
snapshot-progress	**[0..2^63-1]**	integer optional	The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the

			source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver-uuid		string optional	A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
total-transfer-bytes	**[0..2^64-1]**	integer optional	Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable
total-transfer-time-secs	**[0..2^32-1]**	integer optional	Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
transfer-snapshot		string optional	The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in progress. Attributes: non-creatable, non-modifiable
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is

			ignored. Attributes: optional-for-create, modifiable
unhealthy-reason		string optional	The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
vserver		string optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable

Element definition: **snapmirror-initialize-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapmirror-list-unprotected**

[top]

SnapMirror List Unprotected When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
source-vserver		string optional	Specifies the source Vserver for which to list unprotected volumes. Attributes: key, non-creatable, non-modifiable

Element definition: **snapmirror-modify-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-path**

[top]

Snapmirror path name

[none]

Element definition: **snapmirror-promote-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

[top]

Element definition: **snapmirror-quiesce-iter-info**

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-release-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-destination-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-resume-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.

Element definition: **snapmirror-resync-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapmirror-schedule-info**

[top]

Contains the SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

Name	Range	Type	Description
days-of-month		string optional	Days in the month for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match day 1; • 1,3 := match day 1 and 3; • 2-5 := match day 2,3,4,5; • 1-30/7 := match day 1,8,15,22,29; • * := matches all possible legal values; If there is an error, days-of-month will not be present and snapmirror-error will be present.
days-of-week		string optional	Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of: • - := match nothing. • 1 := match day 1 (Mon); • 1,3 := match day 1 and 3 (Mon and Wed); • 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri); • * := matches all possible legal values; If there is an error, days-of-week will not be present and snapmirror-error will be present.
destination-location		string	The destination location of the schedule. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
			Hours in the day for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match hour 1;

hours		string optional	1,3 := match hour 1 and 3; • 2-5 := match hour 2,3,4,5; • 1-24/3 := match hour 1,4,7,10,13,16,19,22; • * := matches all possible legal values; If there is an error, hours will not be present and snapmirror-error will be present.
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. The default is false.
max-transfer-rate		integer optional	Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer.
minutes		string optional	Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of: • - := match nothing; • 1 := match minute 1; • 1,3 := match minute 1 and 3; • 2-5 := match minute 2,3,4,5; • 1-12/3 := match minute 1,4,7,10; • 0-55/5 := match minute 0,5,10,15,20,25,30,35,40, 45,50,55; • * := matches all possible legal values; If there is an error, minutes will not be present and snapmirror-error will be present.
snapmirror-error		snapmirror-error optional	Present if there is an error for a snapmirror schedule.
source-location		string optional	The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present.
tcp-window-size		integer optional	TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value.

Element definition: **snapmirror-status-info**

[top]

The SnapMirror pair status.

Name	Range	Type	Description
base-snapshot		string optional	Base snapshot name. Only present if available.
contents		string	State of the active file system of snapmirror destinations. Possible values are: "replica", "transitioning", and "original".
current-transfer-error		string optional	A human readable transfer error of the current snapmirror transfer. Present when there is a current error.
current-transfer-type		string optional	Type of the current SnapMirror transfer. Possible values are: initialize, store, schedule, retry, retrieve, resync, and migrate. Only present when there is a transfer.
destination-location		string	The destination location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>.

inodes-replicated	**[0..2^64-1]**	integer optional	Shows the number of inodes replicated. Present during directory processing phase.
lag-time		integer	Amount of time since the last snapmirror transfer in seconds.
last-transfer-duration		integer	Duration of the last SnapMirror transfer in seconds.
last-transfer-from		string	Source location of the last SnapMirror transfer.
last-transfer-size		integer	The size in kilo bytes (1024) of the last SnapMirror transfer.
last-transfer-type		string optional	Last SnapMirror transfer type. Possible values are: "initialize", "store", "schedule", "retry", "retrieve", "resync", and "migrate". Only present when there was a last transfer.
mirror-timestamp		integer	Access time in seconds since Jan 1, 1970.
replication-ops	**[0..2^64-1]**	integer optional	Counter that is incremented for every replication operation. Present during directory processing phase.
source-location		string	The source location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>.
state		string	SnapMirror pair state. Possible values are: "uninitialized", "snapmirrored", "broken-off", "quiesced", "source", and "unknown".
status		string	SnapMirror pair transfer status. Possible values are: "Idle, "Transferring", "Pending", "Aborting", "Migrating", "Quiescing", "Resyncing", "Waiting", "Syncing", "In-sync" and "Paused". In case the previous transfer was failed/aborted and had a restart checkpoint set, the status could be "Idle with restart checkpoint" or "Pending with restart checkpoint". In addition the status could be "Checking", "Fixing" and "Transferring, Checking" when "snapmirror check" command is being run on the destination volume.
transfer-progress		integer	Number of kilo bytes (1024) transfered in a current on-going transfer.

Element definition: **snapmirror-sync-schedule-info**

[top]

Contains the synchronous SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

Name	Range	Type	Description
destination-location		string	The destination location of the schedule. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>.
is-compressed		boolean optional	If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. The default is false.
max-transfer-rate		integer optional	Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer.
ops-throttle		string	The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the

		optional	mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode.
snapmirror-error		snapmirror-error optional	Present if there is an error for a snapmirror schedule.
source-location		string optional	The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present.
sync-mode		string	This specifies whether the mirror is configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". "full_sync" means that the mirror is configured to run in a fully synchronous mode. "semi_sync" means that the mirror is configured to run in a semi synchronous mode.
tcp-window-size		integer optional	TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value.
visibility-frequency		integer optional	Controls how often the source snapspot will be visible on the destination mirror.

Element definition: **snapmirror-update-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-operation-id		uuid optional	Result Operation Id
snapmirror-key		snapmirror-info	The keys for the snapmirror object to which the operation applies.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

Element definition: **snapshot-owner-name**

[top]

Snapshot Copy Owner Name

[none]

Element definition: **tieringpolicy-enum**

[top]

Tiering Policy Possible values:

- "snapshot_only" - Tiers volume snapshot copies not associated with active file system to cloud tier.,
- "auto" - Tiers cold volume blocks to cloud tier,
- "none" - Do not tier volume blocks to cloud tier,
- "backup" - Transferred data blocks on DP volume starts on cloud tier.,
- "all" - Tier volume blocks to the cloud tier as soon as possible,
- "archive" - Tier volume blocks to the cloud tier as soon as possible and tagged for a less expensive storage class

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **volume-name-nolink** [top]

Volume Name

[none]

Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

Element definition: **xc-vs-name** [top]

Cross Cluster Vserver Name

[none]

Element definition: **address-pair** [top]

Source and destination address pair.

Name	Range	Type	Description
destination-addr		string	Destination address in the form of filer name or IP address.
source-addr		string	Source address in the form of filer name or IP address.

Element definition: **aggr-name** [top]

Name of the aggregate

[none]

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **smendpointtype**

[top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cg-item-mappings		string[] optional	Specifies a list of the Consistency Group (CG) item mappings. This parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable
destination-volume		string optional	Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
			The type of the SnapMirror policy for the relationship. This parameter

policy-type		string optional	is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"
progress-last-updated	**[0..2^31-1]**	integer optional	Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values: • "none" , • "vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup" , • "vserverflexgroup"
relationship-id		string optional	Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable
relationship-status		string optional	Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the node hosting the source volume joined the quorum. Possible values are: • 'idle', • 'transferring' This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-

			modifiable
source-volume-node		string optional	Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable
transfer-progress	**[0..2^63-1]**	integer optional	Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable

Element definition: **snapmirror-error**

[top]

Information about a single snapmirror schedule error.

Name	Range	Type	Description
errno		integer	The error number.
reason		string	A human-readable concise reason for the error.

Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
break-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
break-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
catalog-status		string optional	Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are: • 'idle' - No catalog metadata transfer is in progress, • 'transferring' - A catalog metadata transfer is in progress.

			This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-total-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
catalog-transfer-snapshot		string optional	Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable
cg-item-mappings		string[] optional	Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable
current-max-transfer-rate	**[0..2^32-1]**	integer optional	The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-operation-id		string optional	Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-error		string optional	A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
current-transfer-priority		string optional	Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values: • "low" , • "normal"
current-transfer-type		string optional	The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" , • "cg_update" ,

			• "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
destination-cluster		string optional	Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
destination-location		string optional	Specifies the destination endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints. • <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints. • This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
destination-volume		string optional	Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the destination Vserver. • The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later

			operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-volume-node		string optional	Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
destination-vserver		string optional	Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of destination volume. • The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if destination-location is not specified. Attributes: key, optional-for-create, non-modifiable
destination-vserver-uuid		string optional	A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
exported-snapshot		string optional	The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
exported-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
file-restore-file-count	**[0..2^64-1]**	integer optional	The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
file-restore-file-list		string[] optional	List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
identity-preserve		boolean optional	This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. Attributes: optional-for-create, non-modifiable
is-auto-expand-enabled		boolean optional	Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. Attributes: optional-for-create, modifiable

is-constituent		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable
is-healthy		boolean optional	False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable
lag-time	**[0..2^32-1]**	integer optional	The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-duration	**[0..2^32-1]**	integer optional	The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable
last-transfer-end-timestamp	**[0..2^31-1]**	integer optional	The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-error		string optional	A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-error-codes	**[0..2^32-1]**	integer[] optional	List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable
last-transfer-from		string optional	The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
last-transfer-network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
last-transfer-size	**[0..2^63-1]**	integer optional	The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
			The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:

last-transfer-type		string optional	• "initialize" , • "update" , • "resync" , • "restore" , • "check" , • "file_restore" , • "cggrs_initialize" , • "cggrs_resync" , • "cg_update" , • "cg_initialize" , • "cg_resync" , • "cg_restore" , • "catalog_metadata" , • "cg_file_restore" , • "failover" , • "aufo" , • "failover_incapable"
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable
mirror-state		string optional	Specifies the mirror state of the SnapMirror relationship. Possible values are: • 'uninitialized' - Destination volume has not been initialized, • 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates, • 'broken-off' - Destination volume is RW and snapshots are present. Attributes: non-creatable, non-modifiable
network-compression-ratio		string optional	The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
newest-snapshot		string optional	The name of the newest Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable
newest-snapshot-timestamp	**[0..2^31-1]**	integer optional	The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable
opmask	**[0..2^64-1]**	integer optional	A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable

policy		string optional	Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable
policy-type		string optional	The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "active_sync_mirror"
progress-last-updated	**[0..2^31-1]**	integer optional	A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-control-plane		string optional	The type of the control plane used for the relationship. Possible values are: • 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations. • 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non-modifiable
relationship-group-type		string optional	For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: • "none" ,

			"vserver" , • "infinitevol" , • "consistencygroup" , • "flexgroup"
relationship-id		string optional	A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
relationship-progress	**[0..2^63-1]**	integer optional	The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
relationship-status		string optional	Specifies the status of the SnapMirror relationship. Possible values are: • 'idle' - Transfers are enabled, and no transfer is in progress, • 'transferring' - SnapMirror transfers are enabled and a transfer is in progress, • 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1', • 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled, • 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress, • 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system, • 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers, • 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers, • 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway, • 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress. Attributes: non-creatable, non-modifiable
relationship-type		string optional	Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values: • "data_protection" , • "load_sharing" , • "vault" , • "restore" , • "transition_data_protection" , • "extended_data_protection"
resync-	**[0..2^64-**	integer	The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving

failed-count	**1]**	optional	the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
resync-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
schedule		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable
snapshot-checkpoint	**[0..2^63-1]**	integer optional	The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
snapshot-progress	**[0..2^63-1]**	integer optional	The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable
source-cluster		string optional	Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: • Data ONTAP 8.1 operating in Cluster-Mode. • Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. Attributes: key, optional-for-create, non-modifiable
source-location		string optional	Specifies the source endpoint of the SnapMirror relationship in one of the following formats: • <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode. • [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. • <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers. • <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers. • This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. • <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source. • <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the

			source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable
source-volume		string optional	Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of the source Vserver. • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver		string optional	Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: • The name of source volume. • The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. • This parameter is mandatory if source-location is not specified. Attributes: key, optional-for-create, non-modifiable
source-vserver-uuid		string optional	A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
total-transfer-bytes	**[0..2^64-1]**	integer optional	Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable
total-transfer-time-secs	**[0..2^32-1]**	integer optional	Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
transfer-snapshot		string optional	The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in progress. Attributes: non-creatable, non-modifiable
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is

			ignored. Attributes: optional-for-create, modifiable
unhealthy-reason		string optional	The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-failed-count	**[0..2^64-1]**	integer optional	The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
update-successful-count	**[0..2^64-1]**	integer optional	The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable
vserver		string optional	If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable

Element definition: **snapmirror-policy-cap-info**

[top]

Capabilities information for policy types.

Name	Range	Type	Description
default-policy		sm-policy optional	The recommended policy to use for this policy type. Attributes: non-creatable, non-modifiable
default-schedule		string optional	The recommended schedule to use for this policy type. Attributes: non-creatable, non-modifiable
is-licensed		boolean optional	Whether or not there is a license installed that enables using this policy type. If a SnapMirror license is installed, all policy types are licensed. If only a SnapVault license is installed, only policy type vault is licensed. Attributes: non-creatable, non-modifiable
policy-type		sm-policy-type-enum optional	A SnapMirror policy type supported by this endpoint type. Supported values are async_mirror, mirror_vault, and vault. Attributes: non-creatable, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"

supports-snaplock-dest		boolean optional	Whether or not this policy type supports a SnapLock volume as the destination. Attributes: non-creatable, non-modifiable
supports-snaplock-source		boolean optional	Whether or not this policy type supports a SnapLock volume as the source. Attributes: non-creatable, non-modifiable

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

APIs in Category: **snapmirror-policy**

snapmirror-policy-add-rule
snapmirror-policy-create
snapmirror-policy-delete
snapmirror-policy-get
snapmirror-policy-get-iter
snapmirror-policy-modify
snapmirror-policy-modify-rule
snapmirror-policy-remove-rule

This set of APIs allows management of SnapMirror Policies in a cluster environment including: creation, deletion, modification and information query.

snapmirror-policy-add-rule

[top]

Add a rule to SnapMirror policy

Input Name	Range	Type	Description
keep		string	Specifies the Snapshot copy retention count.
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean optional	Specifies whether Snapshot copy preserve is enabled.
schedule		string optional	Specifies the Snapshot copy creation schedule name associated with the rule.
snapmirror-label		string	Specifies the Snapshot copy label.
warn	**[0..2^32-1]**	integer optional	Specifies the warning threshold count.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-create

[top]

Create the specified SnapMirror Policy

Input Name	Range	Type	Description
archive-after-days	**[0..2^32-1]**	integer optional	Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later.
are-data-ops-sequentially-split		boolean optional	Configure splitter to split all data ops sequentially.
comment		string optional	A human readable description associated with the SnapMirror policy.
common-snapshot-schedule		string optional	Specifies the common Snapshot copy creation schedule associated with the rule.
disable-fast-resync		boolean optional	Specifies whether fast resync for a SnapMirror Synchronous relationship is disabled or not. This parameter is only available on ONTAP 9.12.1 and later.
discard-configs		svmdr-config-obj[] optional	Configurations Not Replicated During Identity Preserve Vserver DR Possible values: • "network" - Network
ignore-atime		boolean optional	Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only.
is-network-compression-enabled		boolean optional	Specifies whether network compression is enabled for transfers. The default value is 'false'.
keep		string[] optional	Specifies the Snapshot copy retention count.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship.
owner		policy-owner optional	The owner of the SnapMirror policy. Possible values: • "cluster_admin" , • "vserver_admin"
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string[] optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean[] optional	Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination.
			Defines the behavior of SnapMirror if an interrupted transfer

restart		sm-restart-enum optional	exists. Applies to SnapMirror data protection relationship only. Possible values: • "always" , • "never" , • "default"
return-record		boolean optional	If set to true, returns the snapmirror-policy on successful creation. Default: false
schedule		string[] optional	Specifies the Snapshot copy creation schedule name associated with the rule.
sequential-split-op-timeout-secs	**[0..2^32-1]**	integer optional	Configure sequential split op timeout.
snapmirror-label		string[] optional	Specifies the Snapshot copy label.
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values: • "low" , • "normal"
transfer-schedule-name		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationships.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'.
type		sm-policy-type-enum optional	The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" , • "continuous"
warn	**[0..2^32-1]**	integer[] optional	Specifies the warning threshold count.
window-size-for-tdp-mirror		size optional	Window size for TDP Mirror Transfer Operations. The default size is 2MB.

Output Name	Range	Type	Description
		snapmirror-	The snapmirror-policy created (keys or the entire object if

result		policy-info optional	requested)

Errno	Description
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-delete

[top]

Delete the specified SnapMirror Policy

Input Name	Range	Type	Description
policy-name		sm-policy	The name of the SnapMirror policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
EPOLICY_CANNOT_DELETE_BUILTIN	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-get

[top]

Get Information about a single SnapMirror Policy

Input Name	Range	Type	Description
desired-attributes		snapmirror-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy-name		sm-policy	The name of the SnapMirror policy.

Output Name	Range	Type	Description
attributes		snapmirror-policy-info	The attributes of the snapmirror-policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-policy-get-iter

[top]

Get Information about multiple SnapMirror Policies

Input Name	Range	Type	Description
desired-attributes		snapmirror-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapmirror-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-policy object. All snapmirror-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapmirror-policy-info[] optional	The list of attributes of snapmirror-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapmirror-policy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapmirror-policy-modify

[top]

Modify the specified SnapMirror Policy

Input Name	Range	Type	Description
archive-after-days	**[0..2^32-1]**	integer optional	Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later.

are-data-ops-sequentially-split		boolean optional	Configure splitter to split all data ops sequentially.
comment		string optional	A human readable description associated with the SnapMirror policy.
common-snapshot-schedule		string optional	Specifies the common Snapshot copy creation schedule associated with the rule.
disable-fast-resync		boolean optional	Specifies whether fast resync for a SnapMirror Synchronous relationship is disabled or not. This parameter is only available on ONTAP 9.12.1 and later.
discard-configs		svmdr-config-obj[] optional	Configurations Not Replicated During Identity Preserve Vserver DR Possible values: • "network" - Network
ignore-atime		boolean optional	Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only.
is-network-compression-enabled		boolean optional	Specifies whether network compression is enabled for transfers. The default value is 'false'.
keep		string[] optional	Specifies the Snapshot copy retention count.
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship.
owner		policy-owner optional	The owner of the SnapMirror policy. Possible values: • "cluster_admin" , • "vserver_admin"
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string[] optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean[] optional	Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination.
restart		sm-restart-enum optional	Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Possible values: • "always" , • "never" , • "default"
schedule		string[] optional	Specifies the Snapshot copy creation schedule name associated with the rule.
sequential-split-op-timeout-secs	**[0..2^32-1]**	integer optional	Configure sequential split op timeout.
snapmirror-label		string[] optional	Specifies the Snapshot copy label.

transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values: • "low" , • "normal"
transfer-schedule-name		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationships.
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'.
warn	**[0..2^32-1]**	integer[] optional	Specifies the warning threshold count.
window-size-for-tdp-mirror		size optional	Window size for TDP Mirror Transfer Operations. The default size is 2MB.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-modify-rule

[top]

Modify a SnapMirror policy rule

Input Name	Range	Type	Description
keep		string optional	Specifies the Snapshot copy retention count.
policy-name		sm-policy	The name of the SnapMirror policy.
prefix		string optional	Specifies the Snapshot copy creation prefix name associated with the rule.
preserve		boolean optional	Specifies whether Snapshot copy preserve is enabled.
schedule		string optional	Specifies the Snapshot copy creation schedule name associated with the rule.
snapmirror-label		string	Specifies the Snapshot copy label.
warn	**[0..2^32-1]**	integer optional	Specifies the warning threshold count.

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

snapmirror-policy-remove-rule

[top]

Remove a rule from SnapMirror policy

Input Name	Range	Type	Description
policy-name		sm-policy	The name of the SnapMirror policy.
snapmirror-label		string	Specifies the Snapshot copy label.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-policy-type-enum** [top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

Element definition: **sm-restart-enum** [top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

Element definition: **sm-transfer-priority-enum** [top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

Element definition: **snapmirror-policy-info** [top]

Information about SnapMirror Policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
archive-after-days	**[0..2^32-1]**	integer optional	Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. Attributes: optional-for-create, modifiable
are-data-ops-sequentially-split		boolean optional	Configure splitter to split all data ops sequentially. Attributes: optional-for-create, modifiable
comment		string optional	A human readable description associated with the SnapMirror policy. Attributes: optional-for-create, modifiable
common-snapshot-schedule		string optional	Specifies the common Snapshot copy creation schedule associated with the rule. Attributes: optional-for-create, modifiable
create-snapshot		boolean optional	Specifies whether a new Snapshot Copy is created at the time of a SnapMirror transfer. This field is only applicable on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable
disable-fast-resync		boolean optional	Specifies whether fast resync for a SnapMirror Synchronous relationship is disabled or not. This parameter is only available on ONTAP 9.12.1 and later. Attributes: optional-for-create, modifiable
discard-configs		svmdr-config-obj[] optional	Configurations Not Replicated During Identity Preserve Vserver DR Attributes: optional-for-create, modifiable Possible values: • "network" - Network
ignore-atime		boolean optional	Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. Attributes: optional-for-create, modifiable
is-network-compression-enabled		boolean optional	Specifies whether network compression is enabled for transfers. The default value is 'false'. Attributes: optional-for-create, modifiable
max-transfer-rate	**[0..2^32-1]**	integer optional	Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. Attributes: optional-for-create, modifiable
			The owner of the SnapMirror policy. Attributes: optional-for-

owner		policy-owner optional	create, modifiable Possible values: • "cluster_admin" , • "vserver_admin"
policy-name		sm-policy optional	The name of the SnapMirror policy. Attributes: key, required-for-create, non-modifiable
restart		sm-restart-enum optional	Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Attributes: optional-for-create, modifiable Possible values: • "always" , • "never" , • "default"
sequential-split-op-timeout-secs	**[0..2^32-1]**	integer optional	Configure sequential split op timeout. Attributes: optional-for-create, modifiable
snapmirror-policy-rules		snapmirror-policy-rule-info[] optional	Information about rules in the policy.
total-keep	**[0..2^32-1]**	integer optional	Total Retention Count for All Rules in the Policy Attributes: non-creatable, non-modifiable
total-rules	**[0..2^32-1]**	integer optional	Total Rules in the Policy Attributes: non-creatable, non-modifiable
transfer-priority		sm-transfer-priority-enum optional	Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Attributes: optional-for-create, modifiable Possible values: • "low" , • "normal"
transfer-schedule-name		string optional	Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. Attributes: optional-for-create, modifiable
tries		string optional	Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. Attributes: optional-for-create, modifiable
type		sm-policy-type-enum optional	The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Attributes: optional-for-create, non-modifiable Possible values: • "vault" , • "async_mirror" , • "mirror_vault" , • "smgr_mirror" , • "strict_sync_mirror" , • "sync_mirror" , • "active_strict_sync_mirror" , • "automated_failover" , • "migrate" ,

			• "continuous"
vserver-name		vserver-name optional	Specifies the vserver for the SnapMirror policy. Attributes: key, non-creatable, non-modifiable
window-size-for-tdp-mirror		size optional	Window size for TDP Mirror Transfer Operations. The default size is 2MB. Attributes: optional-for-create, modifiable

Element definition: **svmdr-config-obj**

[top]

network Possible values:

- "network" - Network

[none]

Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

Element definition: **sm-restart-enum**

[top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

Element definition: **sm-transfer-priority-enum**

[top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

Element definition: **snapmirror-policy-rule-info**

[top]

Information about rules in the policy.

Name	Range	Type	Description
keep		string optional	Specifies the maximum number of Snapshot copies that are retained on the SnapMirror destination volume for a rule. The total number of Snapshot copies retained for all the rules in a policy cannot exceed 251 on Data ONTAP 9.3 or earlier and 1019 on Data ONTAP 9.4 or later. For all the rules in SnapMirror policies of type async-mirror, this parameter must be set to value '1'. Attributes: optional-for-create,

			modifiable
prefix		string optional	Specifies the Snapshot copy creation prefix name associated with the rule. Attributes: optional-for-create, modifiable
preserve		boolean optional	Specifies the behavior when the Snapshot copy retention count is reached on the SnapMirror vault destination for the rule. The default value is 'false', which means that the oldest Snapshot copy will be rotated out to make room for new ones only if the number of Snapshot copies has exceeded the retention count specified in the keep parameter. When set to 'true', an incremental SnapMirror vault update will fail when the Snapshot copies have reached the retention count. For all the rules in SnapMirror policies of type async-mirror this parameter must be set to value 'false'. Attributes: optional-for-create, modifiable
schedule		string optional	Specifies the Snapshot copy creation schedule name associated with the rule. Attributes: optional-for-create, modifiable
snapmirror-label		string optional	Specifies the Snapshot copy label. It is used for the purpose of Snapshot copy selection for extended data protection relationships. Snapshot copies that have a SnapMirror label that matches this parameter will be transferred to the SnapMirror destination. The label can be 31 or fewer characters in length. SnapMirror policies of type async-mirror and mirror-vault have a rule added for label 'sm_created' at the time of policy creation. This rule cannot be removed or modified by the user. This rule when coupled with create-snapshot field set to 'true' indicates that the SnapMirror relationship using this policy shall create a new Snapshot copy and transfer it as part of an update operation. SnapMirror policies of type async-mirror support one additional rule with SnapMirorr label 'all_source_snapshots'. This rule along with the rule for SnapMirror label 'sm_created' indicates that all new Snapshot copies on the primary volume along with the newly created Snapsho158 :transferred on an initialize or update operation. Rules with any other SnapMirror labels may not be added to SnapMirror policies of type async-mirror. The rule for label sm_created when added to a SnapMirror policy of type vault indicates that all SnapMirror created Snapshot copies of the primary volume are selected for transfer. Attributes: optional-for-create, modifiable
warn	**[0..2^32-1]**	integer optional	Specifies the warning threshold count for the rule. The default value is 0. When set to a value greater than zero, an event is generated after the remaining number of Snapshot copies (for the particular rule) retained on a SnapMirror vault destination reaches the specified warn limit. The preserve parameter for the rule must be 'true' to set the warn parameter to a value greater than zero. Attributes: optional-for-create, modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **snapshot**

snapshot-autodelete-list-info
snapshot-autodelete-set-option
snapshot-create
snapshot-create-async
snapshot-delete
snapshot-delete-async
snapshot-delta-info
snapshot-get-iter
snapshot-get-reserve
snapshot-get-schedule
snapshot-list-info
snapshot-modify-iter
snapshot-modify-snaplock-expiry-time
snapshot-multicreate
snapshot-multicreate-validate
snapshot-multidelete
snapshot-multirename
snapshot-partial-restore-file
snapshot-partial-restore-file-list-info
snapshot-policy-add-schedule
snapshot-policy-create
snapshot-policy-delete
snapshot-policy-get
snapshot-policy-get-iter
snapshot-policy-modify
snapshot-policy-modify-schedule
snapshot-policy-remove-schedule
snapshot-reclaimable-info
snapshot-rename
snapshot-reserve-list-info
snapshot-restore-file
snapshot-restore-file-info
snapshot-restore-volume
snapshot-restore-volume-async
snapshot-set-reserve
snapshot-set-schedule
snapshot-volume-info

snapshot-autodelete-list-info

[top]

Returns the current snapshot autodelete settings.

Input Name	Range	Type	Description
volume		string	Name of the existing volume for which we want snapshot autodelete settings

Output Name	Range	Type	Description
options		snapshot-autodelete-info[]	List of snapshot autodelete options for this volume.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EINTERNALERROR	
EMULTIPLEVOLSFOUND	
EVOLUMENOTONLINE	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-autodelete-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the autodelete settings of the specified volume.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
			Name of the option to be set. Possible values: "state" (value: "on" | "off") This option determines if the snapshot autodelete is currently enabled for the volume. Setting the option to "on" switches on the snapshot autodelete for the volume. Setting the option to "off" switches off the snapshot autodelete for the volume. "commitment" (value: "try" | "disrupt" | "destroy") This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume, LUN, NVMe namespace and File clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume, LUN and File clones) to be deleted. Setting this option to "destroy", will destroy the data backing functionality (volume, LUN, NVMe namespace and File clones) if the backing snapshot is deleted.

option-name		string	"trigger" (value: "volume" | "snap_reserve" | "(DEPRECATED)-space_reserve") This option determines the condition which starts the automatic deletion of snapshots. Setting this option to "volume" triggers automatic deletion of snapshots when the volume reaches threshold capacity and the volume's snap reserve has been exceeded. Setting the option to "snap_reserve" triggers automatic deletion of snapshots when the snap reserve of the volume reaches threshold capacity. Setting the option to (DEPRECATED)-"space_reserve" triggers automatic deletion of snapshots when the space reserved the volume reaches threshold capacity and the volume's snap reserve has been exceeded. NOTE: The option "space_reserve" is deprecated. The threshold capacity is determined by the size of the volume as given below: • If the volume size is less than 20 GB, the autodelete threshold is 85%. • If the volume size is equal to or greater than 20 GB and less than 100 GB, the autodelete threshold is 90%. • If the volume size is equal to or greater than 100 GB and less than 500 GB, the autodelete threshold is 92%. • If the volume size is equal to or greater than 500 GB and less than 1 TB, the autodelete threshold is 95%. • If the volume size is equal to or greater than 1 TB, the autodelete threshold is 98%. "target_free_space" (value: <number>) This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage. "delete_order" (value: newest_first | oldest_first) This option determines if the oldest or newest snapshot is deleted first. "defer_delete" (value: scheduled | user_created | prefix | none) This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices. "prefix" (value: <string>) This option can be set to provide the prefix string for the "prefix" value of the "defer_delete" option. The prefix string length can be 15 char long. "destroy_list" (value: <string>) A comma separated list of services which can be destroyed if the snapshot backing that service is deleted. For 7-mode, the possible values for this option are a combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". For cluster-mode, the possible values for this option are a combination of "lun_clone,file_clone" (for LUN/NVMe namespace clone and/or file clone), "lun_clone,sfsr" (for LUN/NVMe namespace clone and/or sfsr), "vol_clone", "cifs_share", or "none". Please note that "lun_clone", "file_clone" and "sfsr" individually are not valid values. Only pairs "lun_clone,file_clone" and "lun_clone,sfsr" are supported. The option "sfsr" is not supported for

			7-mode. The default value is "none" for 7-mode and cluster-mode.
option-value		string	The value to set the named option
volume		string	Name of the volume for which we want to change autodelete settings.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
EVSERVERNOTFOUND	
EINTERNALERROR	
EONTAPI_EVOLOPNOTSUPP	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRIGGER	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-create

[top]

Create a new snapshot on a specified volume.

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
async		boolean optional	If true, the snapshot is to be created asynchronously. The default value is false.
comment		string optional	A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. This parameter is not supported on FlexGroups.
expiry-time	**[0..2^32-1]**	integer optional	Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode.
is-valid-lun-clone-snapshot		boolean optional	If true, the snapshot create has been requested by snapvault hence all backing snapshots for all the LUN clones in this snapshot will be locked. This ensures the consistency of this snapshot. The default value is false.
snapmirror-label		string optional	A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshot that is created and will be used by the vaulting system to identify a vaulting scheme. This parameter is not supported on FlexGroups.

snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.
volume		string	Name of the volume on which the snapshot is to be created. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.

Errno	Description
ESNAPSHOTEXISTS	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
ENOMORESNAPS	
ESNAPSHOTNOSPACE	
EONTAPI_ENOMEM	
EONTAPI_ETIMEDOUT	
EONTAPI_EINVAL	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
ECLONEINPROGRESS	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	
EAPIMISSINGARGUMENT	
ESNAPSHOTTAGSNOSPACE	
ENOSESSION	
ESNAPSHOTDOESNOTEXIST	
ESNAPDBNOTINITED	

Vfiler-enabled
Yes

snapshot-create-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new snapshot on a specified Infinite Volume.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

Input Name	Range	Type	Description
comment		string optional	A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters.
snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.

volume		string	Name of the Infinite Volume on which the snapshot is to be created. The Infinite Volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
ESNAPSHOTEXISTS	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
ENOMORESNAPS	
ESNAPSHOTNOSPACE	
EONTAPI_ENOMEM	
EONTAPI_ETIMEDOUT	
EONTAPI_EINVAL	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
ESNAPSHOTTAGSNOSPACE	
ESNAPSHOTDOESNOTEXIST	
ESNAPDBNOTINITED	

snapshot-delete

[top]

Delete a snapshot on a specified volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
ignore-owners		boolean optional	If this field is true, snapshot will be deleted even if some other processes are accessing it. The default value is false.
snapshot		string	Name of snapshot to be deleted on the specified volume.
snapshot-instance-		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter.

uuid			An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412
volume		string	Name of the volume on which the snapshot is to be deleted.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EAPIERROR	
ESNAPSHOTNOTALLOWED	
EONTAPI_EBUSY	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EONTAPI_ETIMEDOUT	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EVSERVER_OP_NOT_ALLOWED	
EVOLUME_TYPE_NOT_SUPPORTED	
EAPIMISSINGARGUMENT	
ESNAPSHOTBUSY	
ESNAPDBNOTINITED	

Vfiler-enabled
Yes

snapshot-delete-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete a snapshot on a specified Infinite Volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the Infinite Volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

Input Name	Range	Type	Description
ignore-owners		boolean optional	If this field is true, snapshot will be deleted even if some other processes are accessing it. The default value is false.
snapshot		string	Name of snapshot to be deleted on the specified Infinite Volume.

snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412
volume		string	Name of the Infinite Volume on which the snapshot is to be deleted.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EAPIERROR	
ESNAPSHOTNOTALLOWED	
EONTAPI_EBUSY	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	
EVOLUME_TYPE_NOT_SUPPORTED	
ESNAPDBNOTINITED	

snapshot-delta-info

[top]

Returns the amount of space consumed between two snapshots or a snapshot and active filesystem.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
snapshot1		string	Name of snapshot to be compared with snapshot2 for space consumption calculations.
snapshot2		string optional	Name of snapshot to be compared with snapshot1 for space consumption calculations. If the snapshot is not specified, it is assumed to be Active File System.
volume		string	Name of the volume on which the snapshot delta is to be calculated.

Output Name	Range	Type	Description

consumed-size		integer	Size in bytes of space changed between the 2 specified snapshots or snapshot and the active file system. Range : [0 - 2^63-1].
elapsed-time		integer	Time in seconds elapsed between the 2 specified snapshots or the snapshot and the active file system. Range : [0 - 2^31-1].

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EINTERNALERROR	
EMULTIPLEVOLSFOUND	
EOBJECTNOTFOUND	
EVOLUMENOTONLINE	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EAPIMISSINGARGUMENT	
EONTAPI_ETIMEDOUT	
EONTAPI_EAGAIN	

Vfiler-enabled
Yes

snapshot-get-iter

[top]

Iterate over a list of snapshot objects.

Input Name	Range	Type	Description
desired-attributes		snapshot-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		snapshot-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapshot-info[] optional	The list of attributes of snapshot objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapshot objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.
volume-errors		volume-error[] optional	Volume Error Info

Errno	Description
EINTERNALERROR	

snapshot-get-reserve

[top]

Obtain the current snapshot reserve on a specified volume. Error Returns: Invalid volume name.

Input Name	Range	Type	Description
volume		string	Name of the volume that contains the snapshot reserve.

Output Name	Range	Type	Description
blocks-reserved		integer	The number of 1024 byte blocks that has been set aside as reserve for snapshot usage.
percent-reserved		integer	The percentage of disk space that has been set aside as reserve for snapshot usage.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
E_VOLUME_INACCESSIBLE	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-get-schedule

[top]

Obtain the current snapshot schedule on a specified volume.

This API is not the preferred way of obtaining snapshot schedule information in Clustered Data ONTAP. Snapshot schedule information for a given volume may be obtained in Clustered Data ONTAP by using the following steps:

- Issue API 'volume-get-iter' and record the 'snapshot-policy' field.
- Issue API 'snapshot-policy-get' and use the previously obtained 'snapshot-policy' field as input to find out information about all the schedules attached to the given policy.
- Issue API 'job-schedule-get' to obtain information about each individual schedule in the given snapshot policy.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
volume		string	This the volume name where the snapshots are located.

Output Name	Range	Type	Description
days		integer	The number of snapshots taken daily to keep on line. Range : [0..2^32-1].
hours		integer	The number of snapshots taken hourly to keep on line. Range : [0..2^32-1].
minutes		integer	The number of snapshots taken minutely to keep on line. Range : [0..2^32-1].
weeks		integer	The number of snapshots taken weekly to keep on line. Range : [0..2^32-1].
which-hours		string	A list of the hours at which the hourly snapshots are created.
which-minutes		string	A list of the minutes at which the minutely snapshots are created.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EUSECLUSTERNATIVEUI	
EMULTIPLEVOLSFOUND	
EVOLUMEBUSY	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-list-info

[top]

Return snapshot information for a specified volume. A list of snapshots and information about each snapshot is returned. In Data ONTAP Cluster-Mode, 'snapshot-get-iter' API is the preferred way of retrieving snapshot information.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
is-7-mode-snapshot		boolean optional	If set to true, check if snapshot is a 7-mode snapshot. A 7-mode snapshot can appear in a cluster-mode volume as a result of the volume being transitioned from 7-mode to cluster-mode. A 7-mode snapshot cannot be used in a volume snapshot restore. The default value is false.
lun-clone-snapshot		boolean optional	If set to true, check if snapshot contains any LUN or NVMe namespace clones. The default value is false.
snapowners		boolean optional	If set to true, owners of the busy snapshot are returned. If false, or if the option is omitted, the list of owners is not returned.
target-name		string optional	Name of the object on which to list the snaplist information. Arguments "target-name" and "target-type" should be used together. Arguments "volume" and ("target-name", "target-type") pair are mutually exclusive. One and only one of them should be specified.
target-type		string optional	Type of the object on which to list the snaplist information. Possible values: volume, aggregate.
terse		boolean optional	If set to true, the snapshot block ownership values, namely the "total" and "cumulative-total" outputs, will be omitted. If set to false, the block ownership calculation will be included in the output. The default value is false.
volume		string optional	Name of the volume on which to list the snaplist information. It is for backward compatibility. The recommended usage is to use arguments ("target-name", "target-type") pair.

Output Name	Range	Type	Description
snapshots		snapshot-info[] optional	

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EVOLUMEBUSY	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	

Vfiler-enabled
Yes

snapshot-modify-iter

[top]

Modify the attributes of snapshot or a group of snapshot objects.

Input Name	Range	Type	Description
attributes		snapshot-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple snapshot objects match a given query. If set to true, the API will continue modifying the next matching snapshot even when modification of a previous snapshot fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching snapshot even when the modification of a previous matching snapshot fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		snapshot-info	If modifying a specific snapshot, this input element must specify all keys. If modifying snapshot objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of snapshot objects (just keys) that were not modified due to some error. If set to false, the list of snapshot objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of snapshot objects (just keys) that were successfully updated. If set to false, the list of snapshot objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		snapshot-modify-iter-info[] optional	Information about snapshot objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching snapshot objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of snapshot objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of snapshot objects that matched the query and were successfully updated.
success-list		snapshot-modify-iter-info[] optional	The snapshot objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	

snapshot-modify-snaplock-expiry-time

[top]

Modifies snaplock expiry time of a snapshot copy. Expiry time can only be extended from existing expiry time.

Input Name	Range	Type	Description
expiry-time		integer optional	
infinite-expiry-time		boolean optional	If this option is set to true, API will set the infinite expiry time on the specified snapshot copy.
snapshot		string nonempty	Specifies the name of the snapshot copy for which snaplock expiry time needs to be modified. The snapshot must have already been retained by snaplock.
volume		string	Specifies the name of the volume that contains snapshot copy.

Errno	Description
ENOENT	
EONTAPI_EWORMMNOTWORMA	
EONTAPI_EWORMNOCLOCK	
EINTERNALERROR	
EONTAPI_EWORMVOLNOTWORM	
EVOLUMEOFFLINE	

snapshot-multicreate

[top]

Create a snapshot with the specific name, on each of the specified volumes. It is the caller's responsibility to ensure that the data in the snapshots across all volumes is consistent, by quiescing I/O to these volumes (or the LUNs or NVMe namespaces of interest in these volumes), across the call to this API. The API is asynchronous by default and responds once the snapshot creation consistency point starts. To make it synchronous this API should be called with the async flag set as false by using wait-for-sync parameter. When a failure is encountered while creating a Snapshot copy on a volume, this API stops and returns the error immediately. It does not continue on to create Snapshot copies on the remaining volumes. When the API fails, the returned error code is for the failed volume. For clustered systems, the output 'status' will be set to FALSE in case of failure. In such case the caller should look at the output 'volume-errors' to find out in which volume snapshot creation failed. When an error occurs, it is possible that some snapshots may have been created. If the option cleanup is set to TRUE (default), API will attempt to delete these snapshots (but snapshot deletion may fail). When set to FALSE, it is users' responsibility to delete them. The output array volume-snapcreated-list records for each volume, if a snapshot has been created or not. There are at least two expected use cases for this API. The first one is to call this API with the cleanup option set to TRUE (default). If the call fails, any successfully created snapshots will be deleted before the function returns. This is a simple use case, but has the downside that in case of a failure, the call may take a long time to return due to snapshot cleanup. Another use case would be to call this API in a time critical environment. In such a scenario, it would be good to reduce the impact due to a failure. Hence, it would be better to first call the snapshot-multicreate-validate ZAPI, which would reduce the likelihood of failure of the snapshot-multicreate API. In case a failure does occur, the caller could avoid the cleanup delay by setting the cleanup option to FALSE, and performing snapshot cleanup later, outside the time-critical window.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description

cleanup		boolean optional	When the API fails, some snapshots may have been created for some volumes. When set to TRUE, the API will attempt to delete these snapshots. Note that newly created snapshots cannot be deleted right away until the snapshots are on-disk, which may take up to 10 secs. When set to FALSE, newly created snapshots are not deleted. Users can delete them later as needed. Default is TRUE.
snapmirror-label		string optional	The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters
snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.
volume-names		volume-name[]	Names of the volumes across which the snapshot is to be created. The maximum number of volumes on a cluster system is 1200 (100 for traditional volumes and 500 for flexible volumes. The number is then doubled for a cluster system).
wait-for-sync		boolean optional	Specifies if we should wait for the snapshot creating consistency point to complete before responding to the user for the multicreate API. Default value is 'false'.

Output Name	Range	Type	Description
status		boolean optional	Set to 'FALSE' in case of failure of the API. The output 'volume-errors' will contain the error code and reason for the volume on which snapshot creation failed. This output is only returned for clustered systems.
volume-errors		volume-error[] optional	Error code and reason due to which snapshot creation failed on a volume. This output is only returned for clustered systems.
volume-is-snapcreated-list		volume-is-snapcreated[] optional	An array records if a snapshot has been created for a given volume. This is returned only in case of failure.

Errno	Description
ESNAPSHOTEXISTS	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
ENOMORESNAPS	
ESNAPSHOTNOSPACE	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EONTAPI_EWORMPERIOD	
EONTAPI_EWORMNOCLOCK	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	

EINVALIDINPUTERROR
EOPNOTSUPPORTED
EAGGRRELOCATING
EAGGRINSWITCHBACK
EOP_DISALLOWED_DURING_GIVEBACK
EAGGRFAILINGOVER
EHALTING
EAPIMISSINGARGUMENT

Vfiler-enabled
Yes

snapshot-multicreate-validate

[top]

This is a companion API of snapshot-multicreate. It validates the snapshot creation operation on the specified volumes. But it does not actually create any snapshot. This API only does validations on all volumes and report all errors in the output array. This API is intended to be issued before the snapshot-multicreate API to find out all the errors that may be found during the snapshot create. Its main purpose is to enable snapshot-multicreate's caller to reduce the likelihood of snapshot-multicreate's failure, thereby attempting to avoid the cleanup overhead (of deleting any newly created snapshots) during failure processing. However, this validation API does not guarantee that snapshot-multicreate API will actually work. Something could change between the two calls to cause the actual snapshot creations to fail.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
snapshot		string nonempty	Name of the snapshot to be created. The maximum string length is 256 characters.
volume-names		volume-name[]	Names of the volumes across which the snapshot creation is to be validated.

Output Name	Range	Type	Description
volume-errors		volume-error[]	An array records the error code associated with each volume.

Errno	Description
EONTAPI_EINVAL	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EOPNOTSUPPORTED	
EVOLUMEBUSY	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-multidelete

[top]

Delete the snapshot from the given flexible volumes. This API will return failure if the volume could not be found or it is busy. All the volumes should be online when this API is invoked. It will only delete snapshots on Read-Write volumes. Once all the necessary information to delete snapshots is available, this API will start deleting snapshots on the volumes. If any of the snapshot delete failed, the API will remember the failed volume and continue deleting snapshot on the remaining volumes. In case of failure to delete the snapshots from all the given volumes, the API will return a SUCCESS and also return information about the failed snapshot deletes via the 'volume-errors' output. If the API returns SUCCESS, the applications should check if the 'volume-errors' output is returned or not to check for failed snapshot deletions.

This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
reverting		boolean optional	When the reverting flag is set to true, this API will delete a snapshot on each volume that was created in the current release. The default value is false.
reverting-fg		boolean optional	When the reverting FG flag is set to true, this API will delete a snapshot that was created in the current release on each flexgroup. The default value is false.
snapshot		string nonempty optional	Name of the snapshot to be deleted. The maximum string length is 256 characters. This field is ignored when the reverting flag is set to true.
snapshot-tags		d-snapshot-tag-info[] optional	If the snapshot is locked by the given snapshot tag, the snapshot lock will be ignored and the snapshot will be deleted.
use-snapshot-as-prefix		boolean optional	If this option is set to true, this API will delete all snapshots whose names start with the given snapshot name from the volumes specified in the input. The snapshots will be deleted asynchronously in the background. If set to true, the API will not return a list of volume errors. The default value is false.
volume-names		volume-name[]	Names of the volumes across which the snapshot is to be deleted.
			The identities of the volumes from which the snapshot will be deleted. The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second

volume-uuids		UUID[] optional	through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 This field is ignored when the reverting flag is set to true.

Output Name	Range	Type	Description
snapshots-deleted		integer optional	The number of snapshots deleted.
volume-errors		volume-error[] optional	Error code and reason due to which snapshot deletion failed on a volume. This output is only returned when the API returns SUCCESS but snapshot on some volumes could not be deleted.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EONTAPI_ENOMEM	
EONTAPI_EINVAL	
EONTAPI_EPERM	
EONTAPI_EROFS	
EONTAPI_EAGAIN	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EAGGRFAILINGOVER	
EHALTING	
ESNAPSHOTBUSY	
EONTAPI_ENOMORESNAPS	

snapshot-multirename

[top]

Rename Snapshot copies with a specific name to a new name across multiple volumes. The API processes all the specified volumes even if rename fails on one or more volumes. The snapshot-multirename-errors field should be inspected for failures even if the API is successful.This API is not supported on FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
new-snapshot-name		snapshot-id	The new snapshot name.

snapshot-name		snapshot-id	The current snapshot name.
volume-names		volume-name[]	Names of the volumes across which the snapshot is to be renamed.

Output Name	Range	Type	Description
snapshot-multirename-errors		snapshot-multirename-error[] optional	Information of the error details for snapshot multirename operation

Errno	Description
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVOLUMENOTONLINE	
EVOLUME_TYPE_NOT_SUPPORTED	
EVOLUMEDOESNOTEXIST	
EAPIUNSUPPORTEDVERSION	
EINVALIDINPUTERROR	
ESNAPSHOTNOSPACE	

snapshot-partial-restore-file

[top]

Restores a particular range of bytes in a file from a specified snapshot.

Partial file restores are used to restore particular pieces of LUNs, NVMe namespace and NFS or CIFS container files that are used by a host to store multiple sources of data. For example, a host may be storing multiple user databases in the same LUN. A partial file restore can be used to restore one of those databases in the LUN while not touching the other databases that are also stored in the LUN. Compressed files will not be restored, though compression may be enabled on the volume.

Partial file restores require significant management by the caller. The caller must understand the metadata of the host LUN, NVMe namespace or container file so that they can know which bytes belong to the object being restored.

Partial file restore is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN.

Before the restore operation begins, the caller must quiesce the object being restored. It must remain quiesced for the duration of the restore operation. No host I/O should be issued for the object while it is being restored because the snapshot-partial-restore-file commands will be incrementally restoring the file, LUN, or NVMe namespace and the host will therefore see inconsistent content for the object until the restore operation is completed. Host I/O is permitted for the other objects stored in the LUN, NVMe namespace or container file because the partial file restore will not touch the bytes belonging to those other objects.

During the restore the caller must issue a snapshot-partial-restore-file command for each of the byte ranges that belong to the object being restored, based on the metadata of the LUN, NVMe namespace or container file. Once each command returns, that byte range is restored and the changes are persistent. If the filer should halt while processing a command, that byte range of the LUN, NVMe namespace or container file is inconsistent. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. Once the filer is rebooted the

caller should re-issue the command to restore that byte range to complete the restore.

Once the restore is completed, the caller must purge any host operating system or application buffers that may hold data for the file, LUN, or NVMe namespace that is now stale. For NFS or CIFS mounted volumes the easiest way to purge any host buffers is to unmount and remount the volume. Applications holding buffered data may need to be shut down and restarted.

Multiple partial file restore requests may be issued to the same file, LUN, or NVMe namespace simultaneously. There is no requirement that the requests are all restoring from the same snapshot so that multiple restore operations for different objects may be concurrent on the same file. There is no checking to prevent overlapping byte ranges between requests. Preventing this condition is the responsibility of the caller.

Partial file restores are not intended for restoring parts of normal user-level files that are stored in an NFS or CIFS exported volume. Use snapshot-restore-file to restore normal files like these.

The volume where the LUN, NVMe namespace or container file to restore and where the snapshot to restore from live must be online and must not be a mirror volume.

The partial file restore request may fail if there is not sufficient free space to overwrite all of the blocks in the byte range to be restored.

The partial file restore request is synchronous, meaning that the command will not return until the entire byte range is restored. The snapshot being restored from cannot be deleted while a request is being executed, but it can be deleted between requests. If this happens the next request will notice that the snapshot has been deleted and will return an error.

The maximum number of bytes of data that can be restored in a single request is given by the max-byte-count value returned by the snapshot-partial-restore-file-list-info command. This limit ensures that requests are periodically interruptible and avoids overloading the filer.

If the system halts while a partial file restore request is being executed, the request will not be restarted upon reboot. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. The caller should reissue the partial file restore request for that byte range to complete the restore.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
byte-count		integer	The number of bytes to restore, beginning at start-byte. The byte count must be a multiple of 4096. Use snapshot-partial-restore-file-list-info to determine the maximum number of bytes that can be restored in a single request. Range : [0 - 2^64-1]
path		string	Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used.
snapshot		string	The simple name of the snapshot to restore from. The snapshot must be from same volume as the file to partially restore.
snapshot-instance-uuid		string optional	A unique physical version identifier for a given snapshot within a volume or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9
start-byte		integer	The starting byte offset in the file to partially restore. The first byte of the file is byte zero. The start byte must be a multiple of 4096. Range : [0 - 2^64-1]
volume		string optional	Volume to restore to/from. If this is passed in, the path argument should be relative to the volume.

Errno	Description
EVSERVERNOTFOUND	

EVSERVER_OP_NOT_ALLOWED	
EONTAPI_EVOLOPNOTSUPP	
EOBJECTNOTFOUND	
EINTERNALERROR	
EONTAPI_EBUSY	
EINVALIDINPUTERROR	
EVOLUMEBUSY	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	
EVDISK_ERROR_7MODE_LUN	
EOP_DISALLOWED_VOL_IS_SYNC_SM	
EVDISK_INVALID_SECTOR_SIZE	
EVDISK_LUN_CROSS_NVME_NS	
EVDISK_NVME_NS_CROSS_LUN	

Vfiler-enabled
Yes

snapshot-partial-restore-file-list-info

[top]

Returns partial file restore settings of the vserver.

This API is not supported on FlexGroups or Infinite Volumes.

Output Name	Range	Type	Description
max-byte-count		integer	The maximum number of bytes that can be restored in a single request. This limit ensures that requests are periodically interruptible and avoids overloading the filer. Range : [0 - 2^64-1]

Errno	Description
EVSERVERNOTFOUND	
EVOLUMEBUSY	

Vfiler-enabled
Yes

snapshot-policy-add-schedule

[top]

Add a new schedule to the Snapshot Policy. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs.

Input Name	Range	Type	Description
count	**[0..1023]**	integer	The maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023.
		snapshot-	A human readable string describing the name of the snapshot

policy		policy	scheduling policy.
prefix		string optional	The snapshot name prefix for the schedule. This field should be unique within the policy.
schedule		string	A human readable string describing the name of a new schedule to be added inside the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly' or 'daily' or it can be a user created schedule.
snapmirror-label		string optional	The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapshot-policy-create

[top]

This API creates a Snapshot policy and adds the schedules to it. A Snapshot policy includes at least one schedule, up to a maximum of 5 schedules, and a maximum number of Snapshot copies per schedule. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs. When applied to a volume, the Snapshot policy specifies the schedule on which Snapshot copies are taken and the maximum number of Snapshot copies that each schedule can take. The total count of all the Snapshot copies to be retained for the policy cannot be more than 1023.

Input Name	Range	Type	Description
comment		string optional	A human readable description associated with the snapshot policy. The maximum length of this field can be 255 characters.
count1	**[0..1023]**	integer	Retention count for the snapshots created by the first schedule.
count2	**[0..1023]**	integer optional	Retention count for the snapshots created by the second schedule.
count3	**[0..1023]**	integer optional	Retention count for the snapshots created by the third schedule.
count4	**[0..1023]**	integer optional	Retention count for the snapshots created by the fourth schedule.
count5	**[0..1023]**	integer optional	Retention count for the snapshots created by the fifth schedule.
enabled		boolean	Status of the snapshot policy indicating whether the policy will be enabled or disabled. If set to true, the policy will be enabled.
policy		string	The name of the snapshot scheduling policy which has to be created. Maximum length of this string can be 256 characters.
prefix1		string optional	Snapshot name prefix for the first schedule. Prefix name should be unique within the policy.
prefix2		string optional	Snapshot name prefix for the second schedule. Prefix name should be unique within the policy.
prefix3		string optional	Snapshot name prefix for the third schedule. Prefix name should be unique within the policy.
prefix4		string optional	Snapshot name prefix for the fourth schedule. Prefix name should be unique within the policy.

prefix5		string optional	Snapshot name prefix for the fifth schedule. Prefix name should be unique within the policy.
schedule1		string	First schedule to be added inside the policy. At least one schedule has to be added to create a policy.
schedule2		string optional	Second schedule to be added inside the policy.
schedule3		string optional	Third schedule to be added inside the policy.
schedule4		string optional	Fourth schedule to be added inside the policy.
schedule5		string optional	Fifth schedule to be added inside the policy.
snapmirror-label1		string optional	Label for SnapMirror Operations for first schedule. Maximum length of this field is 31 characters.
snapmirror-label2		string optional	Label for SnapMirror Operations for second schedule. Maximum length of this field is 31 characters.
snapmirror-label3		string optional	Label for SnapMirror Operations for third schedule. Maximum length of this field is 31 characters.
snapmirror-label4		string optional	Label for SnapMirror Operations for fourth schedule. Maximum length of this field is 31 characters.
snapmirror-label5		string optional	Label for SnapMirror Operations for fifth schedule. Maximum length of this field is 31 characters.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

snapshot-policy-delete

[top]

Delete the specified Snapshot Scheduling Policy

Input Name	Range	Type	Description
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapshot-policy-get

[top]

Get Information about a single Snapshot Policy

Input Name	Range	Type	Description
desired-attributes		snapshot-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.

Output Name	Range	Type	Description
attributes		snapshot-policy-info	The attributes of the snapshot.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapshot-policy-get-iter

[top]

Get Information about multiple Snapshot Policies

Input Name	Range	Type	Description
desired-attributes		snapshot-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		snapshot-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		snapshot-policy-info[] optional	The list of attributes of snapshot objects.
next-tag		string optional	Tag for the next call. Not present when there are no more snapshot objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	

snapshot-policy-modify

[top]

Enable or Disable the specified Snapshot Scheduling Policy

Input Name	Range	Type	Description
comment		string optional	A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters.
enabled		boolean optional	The state of the snapshot policy. If true, the snapshot policy is enabled and scheduled snapshots will be created on the volume associated with this policy.
policy		string	A human readable string describing the name of the snapshot scheduling policy.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDNPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	

snapshot-policy-modify-schedule

[top]

Modify a snapshot policy

Input Name	Range	Type	Description
new-count	**[0..1023]**	integer optional	The new maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023.
new-snapmirror-label		string optional	The new SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. If an empty label is specified, the existing label will be deleted. The maximum length of this field is 31 characters
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.
schedule		string	A human readable string describing the name of a schedule whose retention count will be modified. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be user created schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	

[top]

snapshot-policy-remove-schedule

Remove a snapshot schedule from policy

Input Name	Range	Type	Description
policy		snapshot-policy	A human readable string describing the name of the snapshot scheduling policy.
schedule		string	A human readable string describing the name of a schedule which will be removed from the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be a user created schedule.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

snapshot-reclaimable-info

[top]

Returns the amount of space that would be freed when a set of snapshots are deleted from a specified volume.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
snapshots		snapshot-name[]	List of snapshots. A maximum of 1023 snapshots can be listed.
volume		string	Name of the volume on which the snapshot reclaimable space info is to be collected.

Output Name	Range	Type	Description
reclaimable-size		integer	Size in bytes of space reclaimable if the snapshots were deleted. Range : [0 - 2^63-1].

Errno	Description
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTTOOMANY	
ESNAPSHOTCORRUPT	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EAGGRFAILINGOVER	

EAGGRRELOCATING	
EAGGRINSWITCHBACK	
EOP_DISALLOWED_DURING_GIVEBACK	
EHALTING	
EAPIMISSINGARGUMENT	
EONTAPI_ETIMEDOUT	

Vfiler-enabled
Yes

snapshot-rename

[top]

Rename a specified snapshot to a new name on a specified volume. This API is not supported on FlexGroups or Infinite Volume constituents.

Input Name	Range	Type	Description
current-name		string	Name of snapshot to be renamed.
new-name		string	New name of snapshot as a result of the rename.
volume		string	Name of the volume where the current snapshot and the new snapshot are located.

Errno	Description
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTEXISTS	
EVOLUME_TYPE_NOT_SUPPORTED	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
ESNAPSHOTACSLOCKED	
EAPIMISSINGARGUMENT	
EONTAPI_ETIMEDOUT	
ESNAPSHOTNOSPACE	
ESNAPDBNOTINITED	

Vfiler-enabled
Yes

snapshot-reserve-list-info

[top]

Gets the percentage of disk space that is reserved for snapshots in the indicated volume. If no volume

is specified, this will return the percentage of disk space reserved for snapshots for each of the volumes in the system. Reserve space can be used only by snapshots and not by the active file system. This API is deprecated in Data ONTAP Cluster-Mode 8.2 and later. Use volume-get-iter instead.

Input Name	Range	Type	Description
volume		string optional	Volume to get percentage of space reserved for snapshots.

Output Name	Range	Type	Description
snapshot-reserve-details		snapshot-reserve-detail-info[]	List of volumes along with their snapshot space reservation configuration.

Errno	Description
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EVOLUMEBUSY	
EOPNOTSUPPORTED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EAGGRRELOCATING	

Vfiler-enabled
Yes

snapshot-restore-file

[top]

Restores a single file, LUN, or NVMe namespace from the specified snapshot. This operation can be executed to overwrite an existing version of the file, LUN, or NVMe namespace present in the active file system or create a new copy of the file, LUN, or NVMe namespace at a separate location within the same volume. Only normal files, LUNs, and NVMe namespaces are restored. Special files and directories (and their contents) are not restored. Starting Data ONTAP 9.0, restore operation is supported on file with streams. The file, LUN, or NVMe namespace is ready for read/write access once this API returns.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
ignore-streams		boolean optional	Use this option to control the behavior while restoring file with streams. If false, streams are restored along with the file. If true, the file is restored without its streams. The default value is false. This option is only supported on Data ONTAP 9.0 and later.
path		string	Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used.
restore-path		string optional	Path to restore to. The path must be a full path to a filename, and must be in the same volume as the volume used for the restore. If not specified, restore-path is defaulted to the original path.
snapshot		string	Name of snapshot to restore from. Snapshot must be from same volume as the file to restore.
snapshot-		string	A unique physical version identifier for a given snapshot within a volume

instance-uuid		optional	or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9
space-efficient-split-disabled		boolean optional	By default 'false', space-efficient LUN/NVMe namespace clone split is allowed during restore. This parameter, if set to 'true', disables space-efficient splitting for this specific operation.
volume		string optional	Volume to restore to/from. If this is passed in, the path argument should be relative to the volume.

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EONTAPI_EVOLOPNOTSUPP	
EINTERNALERROR	
EOBJECT_NOT_FOUND	
EVOLUMEDOESNOTEXIST	
EONTAPI_EBUSY	
EINVALIDINPUTERROR	
EVOLUMEBUSY	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EAPIMISSINGARGUMENT	
EVDISK_ERROR_7MODE_LUN	
EONTAPI_ENOMEM	
EVDISK_ERROR_TOO_MANY_LUNS	
EOP_DISALLOWED_VOL_IS_SYNC_SM	

Vfiler-enabled
Yes

snapshot-restore-file-info

[top]

Get information about snapshot file restores on a given vserver. Returns maximum snapshot file restores limit and snapshot file restores in progress numbers.

This API is not supported on FlexGroups.

Output Name	Range	Type	Description
max-sfsr-limit		integer	The maximum number of parallel single file snapshot restores (SFSR) allowed on a filer.
sfsr-in-progress		integer	Number of single file snapshot restores (SFSR) in progress on a filer.

Errno	Description
EVERSERVERNOTFOUND	
EVOLUMEBUSY	
EVSERVER_OP_NOT_ALLOWED	

Vfiler-enabled

Yes

snapshot-restore-volume

[top]

Reverts a volume to a specified snapshot. The volume must be online and must not be a mirror. If reverting the root volume, the filer will be rebooted. Non-root volumes do not require a reboot. A volume cannot have both a volume snaprestore and a single-file snaprestore executing simultaneously. Multiple single-file snaprestores can be in progress simultaneously. After the reversion, the volume is in the same state as it was when the snapshot was taken.

This API is not supported on Infinite Volume.

Input Name	Range	Type	Description
force		boolean optional	If this field is set to "true", the Snapshot copy is restored even if the volume has one or more newer Snapshot copies which are currently used as reference Snapshot copy by SnapMirror. If a restore is done in this situation, this will cause future SnapMirror transfers to fail. The SnapMirror relationship may be repaired using "snapmirror resync" command if a common Snapshot copy is found between the source and destination volume. If there is no common Snapshot copy between the source and the destination volume, a baseline SnapMirror copy would be required. The default value is false.
preserve-lun-ids		boolean optional	When this field is specified, LUNs in the volume being restored will remain mapped and their identities preserved such that host connectivity will not be disrupted during the restore operation. I/O's to the LUN will be fenced during the restore operation by placing the LUNs in an unavailable state. Once the restore operation has completed, hosts will be able to resume I/O access to the LUNs. The default value is false.
snapshot		string	Name of snapshot to restore from.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 84a010ec-3d28-11df-84e8-123478653412
volume		string	Name of volume to restore.

Errno	Description
EVOLUMEDOESNOTEXIST	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EONTAPI_EWORMVOLSLC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
ESNAPSHOTDOESNOTEXIST	

EOPNOTSUPPORTED	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EOP_DISALLOWED_DURING_TAKEOVER	
EAPIMISSINGARGUMENT	
ESNAPRESTORE_ONDEMAND_DEST	
ESNAPRESTORE_ONDEMAND_SOURCE	
EOP_DISALLOWED_VOL_IS_SYNC_SM	

Vfiler-enabled
Yes

snapshot-restore-volume-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Reverts an Infinite Volume to a specified snapshot. The Infinite Volume must be online and unmounted and must not be a mirror. After the reversion, the Infinite Volume is in the same state as it was when the snapshot was taken.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

Input Name	Range	Type	Description
snapshot		string	Name of snapshot to restore from.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 84a010ec-3d28-11df-84e8-123478653412
volume		string	Name of Infinite Volume to restore.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EVOLUMEDOESNOTEXIST	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
EONTAPI_EWORMVOLSLC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	

ESNAPSHOTDOESNOTEXIST	
EOPNOTSUPPORTED	
EVOLUME_TYPE_NOT_SUPPORTED	
ESNAPRESTORE_ONDEMAND_DEST	
ESNAPRESTORE_ONDEMAND_SOURCE	

snapshot-set-reserve

[top]

Sets the size of the indicated volume's snapshot reserve to the specified percentage. Reserve space can be used only by snapshots and not by the active file system.

Input Name	Range	Type	Description
percentage		integer	Percentage to set. Range [0-100].
volume		string	Name of volume on which to set the snapshot space reserve.

Errno	Description
EVOLUMEDOESNOTEXIST	
EINVALIDINPUTERROR	
EVOLUMECREATING	
EVOLUMENOTONLINE	
EVOLUMEBUSY	
EONTAPI_ENOSPC	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EOPNOTSUPPORTED	
EAGGRRELOCATING	
EVSERVER_OP_NOT_ALLOWED	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-set-schedule

[top]

Set the snapshot schedule on a specified volume. If number of snapshots requested is greater than ONTAP allows, then ESNAPTOOMANY will be returned with the maximum allow snapshots in the reason.

Input Name	Range	Type	Description
days		integer optional	Number of snapshots taken daily to keep on line. If not provided, the number of daily snapshots is left at the previous value.
hours		integer optional	Number of snapshots taken hourly to keep on line. If not provided, the number of weekly snapshots is left at the previous value.
minutes		integer optional	Number of snapshots taken minutely to keep on line. If not provided, the number of minutely snapshots is left at the previous value.
volume		string	Name of the volume name where the snapshots are located.

weeks		integer optional	Number of snapshots taken weekly to keep on line. If not provided, the number of weekly snapshots is left at the previous value.
which-hours		string optional	Comma-separated list of the hours at which the hourly snapshots are created. If hours is 0, which-hours is ignored and cleared.
which-minutes		string optional	Comma-separated list of the minutes at which the minutely snapshots are created. If minutes is 0, which-minutes is ignored and cleared.

Errno	Description
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTTOOMANY	
EVOLUMEDOESNOTEXIST	
EVOLUMEMOUNTING	
EVOLUMEOFFLINE	
EVOLUMEBUSY	
EAPIMISSINGARGUMENT	

Vfiler-enabled
Yes

snapshot-volume-info

[top]

Returns snapshot related volume information. The information returned is valid at the time the API call reached the filer and maybe outdated soon after.

This API is not supported on FlexGroups.

Input Name	Range	Type	Description
volume		string	Name of the volume on which the space needs to be checked.

Output Name	Range	Type	Description
size-available		integer	Total bytes that when exhausted will disable us from taking snapshots. If this value is 0, snapshots cannot be taken. Any other value would allow us to take a reliable snapshot. This space may or may not get exhausted by taking a snapshot. Also it may get used by writes/allocations in the volume. This is not equal to the free space in the active file system or anyway related to the size of the next snapshot. Range : [0..2^64-1].

Errno	Description
EVOLUMEDOESNOTEXIST	
EVOLUMEOFFLINE	
EVOL_RESTRICTED	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
E_VOLUME_INACCESSIBLE	
EAGGRRELOCATING	
EAPIMISSINGARGUMENT	

Vfiler-enabled

Yes

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

Element definition: **snapshot-autodelete-info**

[top]

Option name and value.

Name	Range	Type	Description
option-name		string	Option key. Possible values: "state" (value: "on" | "off") "commitment" (value: "try" | "disrupt") "trigger" (value: "volume" | "snap_reserve" | "(DEPRECATED)-space_reserve") "target_free_space" (value: <number>) "delete_order" (value: newest_first | oldest_first) "defer_delete" (value: scheduled | user_created | prefix | none) "destroy_list" (value: <user-defined>) "prefix" (value: <string>)
option-value		string	Option value.

Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

Name	Range	Type	Description
access-time		integer optional	The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1].
afs-used	**[0..2^64-**	integer	Size of the active filesystem at the time the snapshot was taken in

	1]	optional	bytes.
busy		boolean optional	Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances: If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot. If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot. If above conditions don't hold, then snapshot is not locked and can be deleted.
comment		string optional	A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes.
compress-savings	**[0..2^64-1]**	integer optional	Savings due to compression at the time the snapshot was taken in bytes.
compression-type		string optional	The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values: • 'none' ... There was no compression enabled on the volume • 'secondary' ... Secondary compression was enabled on the volume • 'adaptive' ... Adaptive compression was enabled on the volume
contains-lun-clones		boolean optional	This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified.
convert-recovery		boolean optional	Snapshot copy was created during a volume conversion operation.
cumulative-percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes.
cumulative-percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes.
cumulative-total		integer optional	Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted.
dedup-savings	**[0..2^64-1]**	integer optional	Savings due to dedup at the time the snapshot was taken in bytes.
dependency		string	Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes. Possible values include: • "acs" • "backup"

		optional	• "dump" • "file_clone" • "LUNs" • "snaplock" • "snapmirror" • "snapvault" • "vclone" • "snap restore"
expiry-time	**[0..2^32-1]**	integer optional	Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes.
infinite-snaplock-expiry-time		boolean optional	Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value.
inofile-version		integer optional	The inofile-version of the snapshot.
is-7-mode-snapshot		boolean optional	True if the snapshot is a 7-mode snapshot.
is-constituent-snapshot		boolean optional	True if the snapshot is a constituent snapshot.
logical-used	**[0..2^64-1]**	integer optional	Snapshot logical size at the time the snapshot was taken in bytes.
name		string optional	Name of the snapshot to be listed.
percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume.
percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume.
performance-metadata	**[0..2^64-1]**	integer optional	Amount of space in use for performance optimization at the time the snapshot was taken, in bytes.
reserved-size	**[0..2^64-1]**	integer optional	Reserved (holes and overwrites) at the time the snapshot was taken in bytes.
snap-state		boolean optional	State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise.
snaplock-expiry-time	**[0..2^64-1]**	integer optional	SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time.
snapmirror-label		string optional	A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout.
snapshot-owners-list		snapshot-owner[] optional	The list of owners of a busy snapshot.
snapshot-		UUID	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data

version-uuid		optional	layout.
state		string optional	The state of the snapshot. Possible values: • 'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally. • 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume. • 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation. Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial. The default value is valid.
total		integer optional	Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted.
vbn0-savings	**[0..2^64-1]**	integer optional	Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes.
volume		string optional	Volume name.
volume-provenance-uuid		UUID optional	Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID.
vserver		string optional	Name of the vserver to which this volume belongs.

Element definition: **snapshot-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against snapshot object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
snapshot-key		snapshot-info	The keys for the snapshot object to which the modify operation applies.

Element definition: **snapshot-multirename-error**

[top]

Information of the error details for snapshot multirename operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
error-number	**[0..2^32-1]**	integer optional	Error code due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable
error-reason		string optional	Error reason due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable
volume-name		string optional	Volume name on which snapshot rename failed. Attributes: non-creatable, non-modifiable

Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **snapshot-policy-info**

[top]

A typedef containing information about the Snapshot Scheduling Policies. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
comment		string optional	A human readable description associated with the snasphot policy. The maximum length of this field can be 255 characters. Attributes: optional-for-create, modifiable
		boolean	The state of the snapshot policy. If true, the snapshot policy is enabled

enabled		optional	and scheduled snapshots will be created on the volume associated with this policy. Attributes: required-for-create, modifiable
policy		snapshot-policy optional	A human readable string describing the name of the snapshot scheduling policy. Attributes: key, required-for-create, non-modifiable
policy-owner		string optional	Owner of the policy Attributes: non-creatable, non-modifiable
snapshot-policy-schedules		snapshot-schedule-info[] optional	Information about individual snapshot schedules. To obtain information about invocation times for individual schedules, use API 'job-schedule-get'.
total-schedules	**[0..5]**	integer optional	Total Number of Schedules in this Policy Attributes: non-creatable, non-modifiable
vserver-name		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **snapshot-reserve-detail-info**

[top]

Information about a volume's snapshot space reservation configuration.

Name	Range	Type	Description
percentage		integer	Percentage of volume reserved for snapshots. Range : [0 - 100].
size		integer	Size in bytes of volume reserved for snapshots. Range : [0 - 2^64-1].
volume		string	Name of volume.
vserver		string optional	Name of the vserver to which this volume belongs. This field is returned only when request is sent to Admin Vserver LIF.

Element definition: **volume-error**

[top]

The error code of a given volume.

Name	Range	Type	Description
errno		integer optional	The error code of the snapshot operation for a given volume. It is returned only when an error is found.
name		volume-name	Name of a volume.
reason		string optional	Description of the error. It is returned only when an error is found.
vserver		string optional	Virtual server containing the volume.

Element definition: **volume-is-snapcreated**

[top]

The status of the snapshot creation for a given volume.

Name	Range	Type	Description
is-snapcreated		boolean	TRUE means a snapshot has been created for the volume.
name		volume-name	Name of a volume.

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

Name	Range	Type	Description
access-time		integer optional	The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1].
afs-used	**[0..2^64-1]**	integer optional	Size of the active filesystem at the time the snapshot was taken in bytes.
			Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances:

busy		boolean optional	If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot. If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot. If above conditions don't hold, then snapshot is not locked and can be deleted.
comment		string optional	A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes.
compress-savings	**[0..2^64-1]**	integer optional	Savings due to compression at the time the snapshot was taken in bytes.
compression-type		string optional	The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values: • 'none' ... There was no compression enabled on the volume • 'secondary' ... Secondary compression was enabled on the volume • 'adaptive' ... Adaptive compression was enabled on the volume
contains-lun-clones		boolean optional	This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified.
convert-recovery		boolean optional	Snapshot copy was created during a volume conversion operation.
cumulative-percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes.
cumulative-percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes.
cumulative-total		integer optional	Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted.
dedup-savings	**[0..2^64-1]**	integer optional	Savings due to dedup at the time the snapshot was taken in bytes.
dependency		string optional	Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes. Possible values include: • "acs" • "backup" • "dump" • "file_clone" • "LUNs"

			• "snaplock" • "snapmirror" • "snapvault" • "vclone" • "snap restore"
expiry-time	**[0..2^32-1]**	integer optional	Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes.
infinite-snaplock-expiry-time		boolean optional	Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value.
inofile-version		integer optional	The inofile-version of the snapshot.
is-7-mode-snapshot		boolean optional	True if the snapshot is a 7-mode snapshot.
is-constituent-snapshot		boolean optional	True if the snapshot is a constituent snapshot.
logical-used	**[0..2^64-1]**	integer optional	Snapshot logical size at the time the snapshot was taken in bytes.
name		string optional	Name of the snapshot to be listed.
percentage-of-total-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume.
percentage-of-used-blocks		integer optional	Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume.
performance-metadata	**[0..2^64-1]**	integer optional	Amount of space in use for performance optimization at the time the snapshot was taken, in bytes.
reserved-size	**[0..2^64-1]**	integer optional	Reserved (holes and overwrites) at the time the snapshot was taken in bytes.
snap-state		boolean optional	State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise.
snaplock-expiry-time	**[0..2^64-1]**	integer optional	SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time.
snapmirror-label		string optional	A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme.
snapshot-instance-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout.
snapshot-owners-list		snapshot-owner[] optional	The list of owners of a busy snapshot.
snapshot-version-uuid		UUID optional	The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data layout.
			The state of the snapshot. Possible values:

state		string optional	'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally. • 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume. • 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation. Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial. The default value is valid.
total		integer optional	Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted.
vbn0-savings	**[0..2^64-1]**	integer optional	Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes.
volume		string optional	Volume name.
volume-provenance-uuid		UUID optional	Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID.
vserver		string optional	Name of the vserver to which this volume belongs.

Element definition: **snapshot-owner**

[top]

owner of a busy snapshot

Name	Range	Type	Description
owner		string	Name of the owner of a busy snapshot

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **snapshot-schedule-info**

[top]

Information about individual snapshot schedules

Name	Range	Type	Description
count	**[0..2^32-1]**	integer optional	Maximum number of snapshots to retain for the schedule present in the snapshot policy. Attributes: non-creatable, non-modifiable
prefix		string optional	Snapshot name prefix for the schedule present in the snapshot policy. Prefix will be used in the snapshot name instead of the schedule name. If prefix is not provided, schedule name will be used in the snapshot name. For eg, if the prefix name 'hourly-even' is assigned to the schedule name 'hourly' then the snapshot name will look like 'hourly-even.2010-05-10_0205'. If no prefix is associated with the schedule 'hourly' then prefix will be set to 'hourly' as the default value. Attributes: non-creatable, non-modifiable
schedule		string optional	A human readable string describing the name of a schedule present in the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly','daily' or it can be a user created schedule. Attributes: non-creatable, non-modifiable
snapmirror-label		string optional	Snapshot SnapMirror Label for the schedule present in the snapshot policy. The value specified will be added as an attribute to the snapshot created by the schedule. The maximum length of this field is 31 characters Attributes: non-creatable, non-modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

APIs in Category: **snapvault**

snapvault-add-softlock
snapvault-get-all-softlocked-snapshots
snapvault-get-softlocks
snapvault-primary-abort-snapshot-create
snapvault-primary-abort-transfer
snapvault-primary-delete-snapshot-schedule
snapvault-primary-destinations-list-info
snapvault-primary-get-relationship-status
snapvault-primary-initiate-incremental-restore-transfer
snapvault-primary-initiate-restore-transfer
snapvault-primary-initiate-snapshot-create
snapvault-primary-relationship-status-list-iter-end
snapvault-primary-relationship-status-list-iter-next
snapvault-primary-relationship-status-list-iter-start
snapvault-primary-release-relationship
snapvault-primary-set-snapshot-schedule
snapvault-primary-snapshot-schedule-list-info
snapvault-primary-snapshot-schedule-status-list-info
snapvault-remove-softlock
snapvault-secondary-abort-snapshot-create
snapvault-secondary-abort-transfer
snapvault-secondary-configuration-list-info
snapvault-secondary-create-relationship
snapvault-secondary-delete-relationship

SnapVault functionality within Data ONTAP provides disk-to-disk remote backup, archival and recovery. Note that the value expected for volume-name is only the volume name string. The path arguments used in these APIs are of the form: /vol/<volume>/<qtree>.

snapvault-secondary-delete-snapshot-schedule
snapvault-secondary-destinations-list-info
snapvault-secondary-get-configuration
snapvault-secondary-get-relationship-status
snapvault-secondary-initiate-incremental-transfer
snapvault-secondary-initiate-snapshot-create
snapvault-secondary-modify-configuration
snapvault-secondary-relationship-status-list-iter-end
snapvault-secondary-relationship-status-list-iter-next
snapvault-secondary-relationship-status-list-iter-start
snapvault-secondary-release-relationship
snapvault-secondary-resync-relationship
snapvault-secondary-set-snapshot-schedule
snapvault-secondary-snapshot-schedule-list-info
snapvault-secondary-snapshot-schedule-status-list-info

snapvault-add-softlock

[top]

Request the system to add softlock for the specified snapshot. Softlocks can be added to preserve the snapshots which user wants to retain down the cascade.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot to be softlocked.
softlock-name		string optional	Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock will be added with default name. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long.
volume		string	Name of the volume where the snapshot exists.

Errno	Description
ESNAPVAULTERR	

snapvault-get-all-softlocked-snapshots

[top]

List all snapshots which are softlocked for snapvault by external means.

Input Name	Range	Type	Description
volume		string	Name of the volume for which softlocked snapshots to be listed.

Output Name	Range	Type	Description
snapshot-list		snapshot-name[] optional	List of snapshots which are softlocked by external means.

Errno	Description
ESNAPVAULTERR	

snapvault-get-softlocks

[top]

List all snapvault softlocks on the given snapshot which are locked by external means.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot for which softlocks to be listed.
volume		string	Name of the volume where the snapshot exists.

Output Name	Range	Type	Description
snapvault-softlocks		snapvault-softlock-info	snapvault softlock information for the snapshot.

Errno	Description
EAPIMISSINGARGUMENT	

snapvault-primary-abort-snapshot-create

[top]

Request the primary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

Input Name	Range	Type	Description
schedule-name		string	Name of the schedule used for snapshot creation.
volume-name		string	Primary volume in which snapshot create is in progress.

Errno	Description
ESNAPVAULTERR	

Errno	Description
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-abort-transfer

[top]

Request the primary system to abort an active transfer. The abort can be hard abort, which means the transfer will not be restartable. Or it could be a soft abort, which will not clean the restart checkpoints. In that case the transfer may be restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

Input Name	Range	Type	Description
is-hard-abort		boolean optional	When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'.
system-path		string	The system path which is the target of transfer.
target-system		string optional	The system filer which is the target of transfer.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-delete-snapshot-schedule

[top]

Request the primary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and if specified the schedule name, will be deleted.

Input Name	Range	Type	Description
schedule-name		string optional	Name of the schedule to be deleted.

volume-name		string	The primary volume for which the schedules are to be deleted.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-destinations-list-info

[top]

Request the primary to list all snapvault destinations that have been replicated from any source path on this primary system. If a source path is provided, then the primary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

Input Name	Range	Type	Description
source-path		string optional	Source path on this primary for which the destination information is desired.

Output Name	Range	Type	Description
destinations		snapvault-destination-info[]	List of all snapvault destinations known to this primary.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-get-relationship-status

[top]

Request the primary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are

licensed on the same filer, output of this API is identical to the output of snapvault-secondary-get-relationship-status

Input Name	Range	Type	Description
system-path		string	System path for relationships whose status is desired.

Output Name	Range	Type	Description
status		snapvault-status-info[]	Status entries for desired relationships.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-initiate-incremental-restore-transfer

[top]

Request to initiate an incremental restore from a given secondary path to an existing primary path, using the specified secondary snapshot. The request will only initiate the restore and return. The actual restore operation will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship- status API should be used to determine progress of the restore operation. If the dataset contains LUNs, the restore will attempt to prevent disruptions to clients using those LUNs. Upon success, the primary path will have the exact same contents as the specified secondary path in the specified secondary snapshot.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
max-transfer-rate		integer optional	
no-lun-clone-		boolean	This option dictates how a lun clone would be transferred from source to destination. If this option is "flase", a LUN clone would be transferred as a

expansion		optional	LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".
primary-path		string	The pre-existing primary path to which data is being restored.
secondary-path		string	The secondary path to restore from.
secondary-snapshot		string optional	Name of the secondary snapshot to be used for this restore transfer.
secondary-system		string	The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-initiate-restore-transfer

[top]

Request the primary system to begin a baseline restore transfer from the given secondary path to the given primary path. If the primary path does not already exist, it will be created before starting the restore transfer. If it already exists, its contents will be overwritten by the restore transfer if overwrite-existing-content is set to true else an error is returned. If an existing primary path contains LUNs, then under certain conditions, restore will prevent disruptions to clients using those LUNs. The request will only start the restore transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship-status API should be used to check the status of the restore.

Input Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
			The maximum transfer rate in kilobytes (1024 bytes) per second to be

max-transfer-rate		integer optional	applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1..2^31-2]
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".
overwrite-existing-content		boolean optional	This option specifies to overwrite an existing primary qtree or not. If specified primary qtree path already exists and the option is set to "true" the existing qtree will be overwritten and and previous data will be lost. If specified primary qtree path already exists and the option is set to "false" then an error is returned. The default value of the option is "true".
primary-path		string	The primary path to which data is being restored. The primary path will be created during the restore if it doesn't already exist.
secondary-path		string	The secondary path to restore from.
secondary-snapshot		string optional	Name of the secondary snapshot to be used for this restore transfer. If this option is not provided, the secondary system will choose the snapshot that contains the most recent back-up for this secondary path.
secondary-system		string	The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-initiate-snapshot-create

[top]

Request the primary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the snapshot prefix. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-primary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

Input Name	Range	Type	Description
options		snapvault-snapcreate-options optional	Describes options for snap create request.
schedule-			The name of the schedule to be used for this snapshot

name		string	creation.
volume-name		string	The primary volume for which the snapshot schedule was configured.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-primary-relationship-status-list-iter-start API. The primary will clean up any saved info for this iteration.

Input Name	Range	Type	Description
tag		string	Tag from the previous primary-relationship-status-list-iter-start.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-relationship-status-list-iter-next

[top]

Request the primary to continue the iteration set up with the snapvault-primary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-relationship-status-list-iter-next

Input Name	Range	Type	Description

maximum		integer	The maximum number of entries to retrieve. Range:[0..2^32-1]
tag		string	Tag from a previous primary-relationship-status-list-iter-start.

Output Name	Range	Type	Description
records		integer	The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1]
status-list		snapvault-status-info[] optional	List of entries, each representing status entry for a relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-relationship-status-list-iter-start

[top]

Request the primary to start an iteration through the list of the status entries for all relationships.

Output Name	Range	Type	Description
records		integer	This tells you the number of items that have been saved for future retrieval with primary-relationship-status-list-iter-next. Range:[0..2^32-1]
tag		string	Tag to be used in subsequent iterations.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-release-relationship

[top]

Request the release of a snapvault relationship formed by a "create-relationship" or "resync-relationship" operation. This operation deletes the registry entry and the softlocks on the source snapshot.

Input Name	Range	Type	Description
primary-path		string	The primary path for the relationship.
secondary-path		string	The secondary path for the relationship.
secondary-system		string	The secondary system for the relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-set-snapshot-schedule

[top]

Request the primary system to configure the specified snapshot schedule. It can also update existing snapshot schedules. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

Input Name	Range	Type	Description
snapshot-schedule		snapvault-primary-snapshot-schedule-info	Specifies details of the schedule to be set.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-snapshot-schedule-list-info

[top]

Request the primary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the primary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-secondary-snapshot-schedule-list-info and this API return the same number of schedules.

Input Name	Range	Type	Description
volume-name		string optional	The primary volume for which the list of snapshot schedules are desired.

Output Name	Range	Type	Description
snapshot-schedules		snapvault-primary-snapshot-schedule-info[] optional	List of snapshot schedule entries.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-primary-snapshot-schedule-status-list-info

[top]

Request the primary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-snapshot-schedule-status-list-info

Input Name	Range	Type	Description
volume-name		string optional	Primary volume for which snapshot schedule status is desired.

Output Name	Range	Type	Description
snapshot-schedule-status		snapvault-snapshot-schedule-status-info[]	List of status entries, one for each snapshot schedule.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	

ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_client

snapvault-remove-softlock

[top]

request the system to remove softlock for the given snapshot.

Input Name	Range	Type	Description
snapshot		string	Name of the snapshot for which softlock to be removed.
softlock-name		string optional	Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock with default name will be removed. When softlock-name has value "-all", all softlocks on the snapshot will be removed. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long.
volume		string	Name of the volume where the snapshot exists.

Errno	Description
ESNAPVAULTERR	

snapvault-secondary-abort-snapshot-create

[top]

Request the secondary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

Input Name	Range	Type	Description
schedule-name		string	The name of the schedule used by the snapshot creation.
volume-name		string	The secondary volume in which snapshot create is in progress.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-abort-transfer

[top]

Request the secondary system to abort the current transfer. The abort can be hard abort, which means the transfer will not be restartable. By default, a soft abort is used, which means the transfer is restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

Input Name	Range	Type	Description
is-hard-abort		boolean optional	When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'.
system-path		string	The system path which is the target of update.
target-system		string optional	The system filer which is the target of transfer.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-configuration-list-info

[top]

Request to return a list of all configuration entries found on the secondary system.

Output Name	Range	Type	Description
configurations		snapvault-configuration-info[] optional	List of configuration entries.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License

snapvault_server

snapvault-secondary-create-relationship

[top]

Request the secondary system to configure a new snapvault relationship with the given primary and secondary systems and paths. This API is equivalent to the 'snapvault start' Data ONTAP command. All the inputs provided with this request will be stored in the configuration entry maintained by the secondary system. These values will be used as default settings for further incremental update transfers for this relationship. The snapvault-secondary-modify-configuration API can be used to change these configured settings. A successful configuration will automatically be followed by a baseline transfer from the primary to the secondary. The secondary path will be created during the baseline transfer hence it is required that the secondary path must not exist when issuing this request. This request will only begin the baseline transfer and return. The transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-get-relationship-status API should be used to check the status of the transfer.

Input Name	Range	Type	Description
configuration		snapvault-configuration-info	Relationship configuration
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-delete-relationship

[top]

Request the secondary system to unconfigure and delete the relationship permanently. The secondary path will be deleted. But none of the snapshots that capture this secondary path will be deleted. This API corresponds to the 'snapvault stop' Data ONTAP command.

Input Name	Range	Type	Description
secondary-path		string	The secondary-path to be deleted. The path will be unconfigured and deleted.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-delete-snapshot-schedule

[top]

Request the secondary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and the snapshot prefix when specified, will be deleted.

Input Name	Range	Type	Description
delete-schedule-softlock		boolean optional	When set to 'true', snapvault will delete ACS softlock set by this schedule. The default value for this option is 'false'.
schedule-name		string optional	The name of the schedule to be deleted.
volume-name		string	The secondary volume for which the schedule is to be deleted.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-destinations-list-info

[top]

Request the secondary to list all snapvault destinations that have been replicated from any source path on this secondary system. If a source path is provided, then the secondary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

Input Name	Range	Type	Description
source-path		string optional	Source path on this secondary for which the destination information is desired.

Output Name	Range	Type	Description
destinations		snapvault-destination-info[]	List of all snapvault destinations known to this secondary.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-get-configuration

[top]

Request the secondary to return the configuration entry for a relationship. The relationship must be specified by providing the secondary path as input.

Input Name	Range	Type	Description
secondary-path		string	The secondary path for the relationship whose configuration entry is desired.

Output Name	Range	Type	Description
configuration		snapvault-configuration-info optional	A single configuration entry.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-get-relationship-status

[top]

Request the secondary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-get-relationship-status

Input Name	Range	Type	Description
system-path		string	System path for the relationships whose status is desired.

Output Name	Range	Type	Description
status		snapvault-status-info[]	Status entries for desired relationships.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-initiate-incremental-transfer

[top]

Request the snapvault secondary system to begin an incremental transfer to the given secondary path. This API is equivalent to the 'snapvault update' Data ONTAP command. It is required that this secondary path has already been configured as part of a snapvault relationship. The primary system and path configured in that relationship will be used as the source for this transfer. The request will only start the transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of the update.

Input Name	Range	Type	Description
max-transfer-rate		integer optional	The maximum transfer rate in kilobytes (1024 bytes) per second to be applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1.. 2^31-2]
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".
primary-snapshot		string optional	Name of the primary snapshot to be used for this update transfer. This option is supported for only primary systems. If this option is not provided, the primary system will create a new source snapshot for this transfer.
secondary-			The secondary path that will be used as the destination for this update

path		string	transfer. It is required that this secondary path is already a part of some configured snapvault relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-initiate-snapshot-create

[top]

Request the secondary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the schedule name. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-secondary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

Input Name	Range	Type	Description
lock-backing-snapshot		boolean optional	When set to 'true' any snapshots backing the LUN clones present in the snapshot being created will be locked down. As a result, the locked backing snapshots can't be deleted as long as the snapshot that is locking them exists. The default value for this option is 'false', which doesn't lock any backing snapshots.
options		snapvault-snapcreate-options optional	Describes options for snap create request.
schedule-name		string	The name of the schedule to be used for creating the snapshot. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule. If an empty string is provided, the snapshot creation process will be started, but a snapshot will not be created. This is useful to bring all the relationships of a secondary volume to a consistent state.
volume-name		string	The secondary volume in which the snapshot is to be created.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-modify-configuration

[top]

Request change in one or more configuration parameters of an existing snapvault relationship identified by the secondary path provided. Only the parameters that are specified as input will be changed for this configuration.

Input Name	Range	Type	Description
configuration		snapvault-configuration-info	Relationship configuration

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-secondary-relationship-status-list-iter-start API. The secondary will clean up any saved info for this iteration.

Input Name	Range	Type	Description
tag		string	Tag from the previous secondary-relationship-status-list-iter-start.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License

snapvault_server

snapvault-secondary-relationship-status-list-iter-next

[top]

Request the secondary to continue the iteration set up with the snapvault-secondary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-relationship-status-list-iter-next

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve. Range:[0..2^32-1]
tag		string	Tag from a previous secondary-relationship-status-list-iter-start.

Output Name	Range	Type	Description
records		integer	The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1]
status-list		snapvault-status-info[] optional	List of entries, each representing status entry for a relationship.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-relationship-status-list-iter-start

[top]

Request the secondary to start an iteration through the list of the status entries for all relationships. This list will also include entries for snapvault restores from this secondary.

Output Name	Range	Type	Description
records		integer	This tells you the number of items that have been saved for future retrieval with secondary-relationship-status-list-iter-next. Range: [0..2^32-1]
tag		string	Tag to be used in subsequent iterations.

Errno	Description

ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-release-relationship

[top]

Request the release of a snapvault relationship formed after a restore operation on the primary system. This operation deletes the registry entry and removes the softlock on the source base snapshot.

Input Name	Range	Type	Description
primary-path		string	The primary path that had been used for the restore.
primary-system		string	The primary system which had performed the restore.
secondary-path		string	The secondary path that was used as source for restore.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-resync-relationship

[top]

Request to resynchronize the relationship for an existing secondary path. This API is equivalent to the 'snapvault start -r' Data ONTAP command. In addition the configuration entry for this relationship will be updated with any parameters that are provided as input. Finally an update transfer to this secondary path will be started. The resynchronization is commonly used when the primary dataset has been migrated to a different location for e.g. via snapvault restore. This functionality is also required if the secondary path was made writable for e.g. via wafl iron. This request will only start the resync process and return. The process will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of this restore.

Input Name	Range	Type	Description

configuration		snapvault-configuration-info	Relationship configuration
no-lun-clone-expansion		boolean optional	This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false".

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-set-snapshot-schedule

[top]

Request the secondary system to configure the specified snapshot schedule. If this request is made for an existing snapshot schedule, then that snapshot schedule is updated with any new values specified. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

Input Name	Range	Type	Description
snapshot-schedule		snapvault-secondary-snapshot-schedule-info	Specifies details of the schedule to be set.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	
ESNAPVAULTBUSY	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-snapshot-schedule-list-info

[top]

Request the secondary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the secondary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-primary-snapshot-schedule-list-info and this API return the same number of schedules.

Input Name	Range	Type	Description
volume-name		string optional	The secondary volume for which the list of snapshot schedules are desired.

Output Name	Range	Type	Description
snapshot-schedules		snapvault-secondary-snapshot-schedule-info[] optional	List of snapshot schedule entries.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

snapvault-secondary-snapshot-schedule-status-list-info

[top]

Request the secondary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. This API corresponds to the 'snapvault status -s' Data ONTAP command. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-snapshot-schedule-status-list-info

Input Name	Range	Type	Description
volume-name		string optional	Secondary volume for which snapshot schedule status is desired.

Output Name	Range	Type	Description
snapshot-schedule-status		snapvault-snapshot-schedule-status-info[]	List of status entries, one for each snapshot schedule.

Errno	Description
ESNAPVAULTERR	
EAPILICENSE	
ESNAPVAULTSETUP	
ESNAPVAULTRESOURCE	

Vfiler-enabled
Yes

License
snapvault_server

Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

Element definition: **snapvault-configuration-info**

[top]

Describes the elements of the snapvault configuration entry.

Name	Range	Type	Description
connection-mode		string optional	This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of primary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message.
is-access-time-change-ignored		boolean optional	Sets the ignore_atime option in snapvault configuration entry. When set to 'true', snapvault primary does not send files with only access time changes during incremental transfers. The default value is 'false'
is-open-file-backup-allowed		boolean optional	Sets the back_up_open_files option in the snapvault configuration entry. This option is used to allow or disallow the inclusion of open files on the primary system at the time of the transfer. This option is currently applicable only for OSSV relationships. When set to 'false' the OSSV primary agents will exclude files that are open from the transfer. The default value for this parameter is 'true'.
is-primary-path-utf8-encoded		boolean optional	Specifies encoding format for the primary pathname. A 'true' value indicates that the primary pathname is in UTF8 format. The default encoding format is ASCII/extended ASCII. The default value is 'false'.
max-transfer-rate		integer optional	The maximum transfer rate in kilobytes (1024 bytes) per second that will be used for this relationship as well as baseline transfer. The default value for this parameter will allow transfers to proceed as fast as possible. Range:[1..2^31-2]
			The primary path that will be used as the source for this relationship as well as for baseline transfer. This can be either in UTF8 or

primary-path		string	ASCII/extended ASCII depending on whether or not 'is-primary-path-utf8-encoded' flag is set. If option 'is-primary-path-utf8-encoded' is not specified, then the primary-path considered as in ASCII/extended ASCII.
primary-system		string	The primary system for this relationship as well as for the baseline transfer. This input will be used by the secondary system to establish contact with the primary. Therefore this input is expected to be a hostname that the primary can resolve.
secondary-path		string	The secondary path that will be used as destination for this relationship as well as baseline transfer. The secondary path will be created during the baseline transfer and hence it must not exist when issuing this request.
tries-count		integer optional	The maximum number of times a transfer will be tried. Transfers that are retried using this mechanism may be capable of restarting from where the previous attempt failed. If a transfer does not succeed even after those many attempts, then the secondary will give up. All the data that was transferred during previous tries for this transfer will be discarded. The default value for this parameter is 2. When set to 0, the relationship will become dormant. In other words no transfers will be allowed to this secondary path. The maximum value accepted for this input is 120. Range:[0..120]
use-compression		string optional	Specifies whether to compress the network data stream. Possible values are 'on', 'off', and 'default'. When the value is set to 'on', stream compression will be enabled. When the value is set to 'off', stream compression will be disabled. When the value is set to 'default' then the default value will be used. In case of snapvault create relationship API, when this option is not specified, the default value will be used. In case of snapvault modify API, when this option is not specified, the last configured value for this relationship will be used. The default value for this option is the value of global compression option.

Element definition: **snapvault-destination-info**

[top]

Structure of each entry of destinations list.

Name	Range	Type	Description
chained-destinations		snapvault-chained-destination-info[]	List of destinations that form a dependency chain starting from the source-path. This list will contain only one element for non-cascaded configurations. The last element of this list represents the destination for which the snapshot returned in source-snapshot has been preserved on the source system.
source-path		string	The source path for this destination.
source-snapshot		string	The source snapshot that has been preserved on the source system for the destination.

Element definition: **snapvault-primary-snapshot-schedule-info**

[top]

Structure of each snapshot schedule.

Name	Range	Type	Description

is-auto-update		boolean optional	Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot. Default value is 'false'. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules.
options		snapvault-schedule-options optional	Describes snapvault schedule options.
preserve-snapshots		string optional	Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules.
retention-count		integer	Denotes the maximum number of most recent snapshots that will be retained by this schedule. Range:[0..254]
schedule		snapvault-schedule-info optional	Describes the actual schedule.
schedule-name		string	Uniquely identifies this schedule within a primary volume. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule.
volume-name		string	The primary volume for which this schedule has been configured.
warn-at-count		integer optional	On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. Range:[0..retention-count - 1]

Element definition: **snapvault-secondary-snapshot-schedule-info**

[top]

Snapshot schedules for each volume.

Name	Range	Type	Description
is-auto-update		boolean	Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot.
options		snapvault-schedule-options optional	Describes schedule options.
preserve-snapshots		string optional	Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules.
retention-		integer	Denotes the maximum number of most recent snapshots that will be

count			retained by this schedule. Range:[0..254]
schedule		snapvault-schedule-info optional	Describes the actual schedule.
schedule-name		string	Uniquely identifies the schedule within a secondary volume. The schedule-name is used as a prefix in the name of each snapshot created by this schedule.
volume-name		string	The secondary volume for which these schedules have been configured.
warn-at-count		integer optional	On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. Range:[0..retention-count - 1]

Element definition: **snapvault-snapcreate-options**

[top]

Snap create options.

Name	Range	Type	Description
tries-count		integer	This option is similar to one in snapvault-schedule-options. Range:[-1..120]

Element definition: **snapvault-snapshot-schedule-status-info**

[top]

Structure of the snapshot schedule status entry.

Name	Range	Type	Description
schedule-name		string	Uniquely identifies schedule within a volume.
status		string	Status of this schedule. Possible values are: "Idle", "Active", "Aborting", "Queued", "Saving".
volume-name		string	Volume for which this schedule is configured.

Element definition: **snapvault-softlock-info**

[top]

Structure of the snapvault softlock.

Name	Range	Type	Description
softlock-name		string	Name of the softlock. This field will be empty if softlock-name is not specified while adding softlock.
type		string	Type of snapvault softlock. This indicates whether the softlock added using zapi or command line interface. Possible types are "cli", "api"

Element definition: **snapvault-status-info**

[top]

Format of each status entry.

Name	Range	Type	Description
base-snapshot		string optional	Snapshot the relationship is currently based upon.
compressed-bytes		integer optional	Number of compressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1]
contents		string optional	State of the active file system of the snapvault path on this system. Possible values are: "replica", "transitioning" and "original". This field is present only on the destination.
current-transfer-error		string optional	A human readable error string for the current transfer.
current-transfer-type		string optional	Type of the current transfer. Possible values are: "initialize", "update", "retry", "resync". Only available for active transfers.
destination-path		string	Destination path.
destination-system		string	Destination hostname.
inodes-replicated	**[0..2^64-1]**	integer optional	Shows the number of inodes replicated. Present during directory processing phase.
lag-time		integer optional	Amount of time in seconds since the beginning of the most recently successful transfer from source. This field is present only when there has been a successful baseline transfer. Range: [1..2^32-1]
last-transfer-duration		integer optional	Duration of last transfer in seconds. Range:[0..2^32-1]
last-transfer-from-path		string optional	Source path used for the last transfer.
last-transfer-from-system		string optional	Source system used for the last transfer.
last-transfer-size		integer optional	Size in kilobytes (1024 bytes) of the last transfer. Range: [0..2^32-1]
last-transfer-type		string optional	Last transfer type. Possible values are: "initialize", "update", "retry", "resync".
mirror-timestamp		integer optional	Creation time of the snapshot used for the most recent successful transfer. Specified in seconds since Jan 1, 1970. This field is present only when there has been a successful baseline transfer. Range:[1..2^32-1]
replication-ops	**[0..2^64-1]**	integer optional	Counter that is incremented for every replication operation. Present during directory processing phase.
source-path		string	Source path.
source-system		string	Source hostname.
state		string	State of this relationship. Possible values are: "uninitialized","snapvaulted","broken-off","unknown", "source","restoring","quiesced".
status		string	Transfer status for this relationship. Possible values are: "idle", "transferring", "pending", "aborting", "quiescing", "resyncing", "restoring".
			Number of kilobytes (1024 bytes) transferred so far. This field is

transfer-progress		integer optional	valid only for active transfers. If there is no active transfer in progress, this field is absent. Range:[0..2^32-1]
uncompressed-bytes		integer optional	Number of uncompressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1]

Element definition: **snapvault-chained-destination-info**

[top]

Structure of each entry of destinations-chain.

Name	Range	Type	Description
destination-path		string	Destination path.
destination-system		string optional	Hostname of the destination system.

Element definition: **snapvault-schedule-info**

[top]

Representation of the scheduling information.

Name	Range	Type	Description
days-of-week		string optional	Days of the week for which this schedule has been set. This is a comma separated list of days, where a day is specified by the first three letters of the day. Day ranges are also allowed. Here are the possible formats: • - := matches no day of the week • mon := matches Monday • tue,thu := matches Tuesday and Thursday • mon-fri := matches mon,tue,wed,thu,fri Default value is mon-sun, i.e. every day.
hours-of-day		string optional	Hours of the day for which this schedule has been set. This is a comma separated list of the hours during the day where hours are specified as integers from 0 to 23. Hour ranges are also allowed. Step values are allowed in conjunction with ranges. Here are the possible formats: • 4 := matches 4 am. • 0,13 := matches midnight and 1pm. • 0-23 := matches all hours • 0-8/2 := matches 'every 2 hours' starting from midnight until 8am. Default value is 0, i.e. midnight.

Element definition: **snapvault-schedule-options**

[top]

Describes snapvault schedule options.

Name	Range	Type	Description

retention-period		string optional	This option is used to specify a retention period for snapshots, which are created by this schedule, for SnapLock volumes. The retention period is specified as a count followed by a suffix. the valid suffixes are d - for days m - for months y - for years For example a value of 6m represents a retention period of 6 months. THe maximum valid retention period is 30 years, or the maximum retention period set for the volume, whichever is shorter. The minimum valid retention period is 0 days, ir the minimum retention period set for the volume, whichever is longer. If the option value is default or the retention-period option is not specified, the snapshots will be created with retention period equal to the default retention period of the secondary SnapLock volume, or 30 years, whichever is shorter.
tries-count		integer optional	Number of times SnapVault should try creating each scheduled snapshot before giving up. If the snapshot creation fails due to transient errors such as the volume being out of space, SnapVault will keep trying to create the snapshot every minute untill the request is fulfilled. The allowed range is from 0 to 120. The default value is unlimited. If tries-count is not use, then the value will remain unchanged and the already configured value will be used. The default value for this option is -1. Range:[-1..120]

APIs in Category: **snmp**

snmp-community-add
snmp-community-delete
snmp-community-delete-all
snmp-disable
snmp-enable
snmp-enable-snmpv3
snmp-get
snmp-get-next
snmp-status
snmp-test-trap-trigger
snmp-trap-disable
snmp-trap-enable
snmp-traphost-add
snmp-traphost-delete

A note on snmp-community-* ZAPI:

The snmp-community-* ZAPI must be executed on the Cluster LIF. Vserver tunneling must be used to add/delete an SNMP community for a Vserver. If Vserver tunneling is not used while executing these ZAPI, then it will default to Cserver.

snmp-community-add

[top]

Adds a community to the list of communities.

Input Name	Range	Type	Description
access-control		string	Access control for the community. The only supported value is "ro" (read-only).
community		string	Community name to be added.

Errno	Description
EONTAPI_EINVAL	
E_COMMUNITY_CREATE_FAILED	

snmp-community-delete

[top]

Deletes a community from the list of communities.

Input Name	Range	Type	Description
access-control		string	Access control for the community.The only supported value is "ro" (read-only).
community		string	Community name to be deleted.

Errno	Description
EONTAPI_EINVAL	

snmp-community-delete-all

[top]

Deletes all the communities.

Errno	Description
EONTAPI_EINVAL	

snmp-disable

[top]

Disables snmp protocol.

snmp-enable

[top]

Enables snmp protocol.

snmp-enable-snmpv3

[top]

Enable SNMPv3 cluster-wide

Errno	Description
EINTERNALERROR	
E_FIPS_USERS_AND_TRAPHOSTS_DELETE_FAILED	
E_ENABLE_SNMPV3_DISABLED	

snmp-get

[top]

Retrieves the value of a snmp object.

Input Name	Range	Type	Description
object-id		string	Fully qualified object identifier of a snmp object. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed.

Output Name	Range	Type	Description
			If true, the string returned in 'value' is the hexadecimal representation

is-value-hexadecimal		boolean optional	of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string.
value		string	Value of the snmp object specified through the input argument "object-id".

Errno	Description
EONTAPI_EINVAL	

snmp-get-next

[top]

This is used to retrieve the next OID in the mib tree of data. Instead of returning the data you requested, it returns the next OID in the tree and its value. Unlike the snmp-get api, this api does return data for a OID which is too short or is missing the index part of the OID.

Input Name	Range	Type	Description
object-id		string	Object Identifier of a snmp object. The OID can be a fully qualified OID or a partial OID. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed.

Output Name	Range	Type	Description
is-value-hexadecimal		boolean optional	If true, the string returned in 'value' is the hexadecimal representation of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string.
next-object-id		string	Object Identifier of the next snmp object in the mib.
value		string	Value of the snmp object reported through the output argument "next-object-id".

Errno	Description
EONTAPI_EINVAL	

snmp-status

[top]

Returns configuration information of the SNMP agent daemon.

Output Name	Range	Type	Description
communities		community-info[] optional	Returns a list of communities and their access control settings.
contact		string	Contact name.
is-trap-enabled		boolean	Retuns "true" if traps are enabled. "false" otherwise.
location		string	Location name.
traphosts		traphost-info[] optional	Returns a list of registered trap hosts followed by their IP addresses. Only resolvable trap hosts are returned. If a host name cannot be found in /etc/hosts for a previously registered IP address, its name defaults to a string representation of its IP address.

snmp-test-trap-trigger

[top]

Trigger SNMP test trap

Errno	Description
EINTERNALERROR	

snmp-trap-disable

[top]

Disables snmp traps.

snmp-trap-enable

[top]

Enables snmp traps.

snmp-traphost-add

[top]

Adds a host to the list of trap hosts.

Input Name	Range	Type	Description
host		string	Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address.
username		string optional	Specify the USM user name to indicate SNMPv3 traphost. USM user must have already been defined before adding a SNMPv3 traphost.

Errno	Description
EONTAPI_EINVAL	
E_TRAPHOST_CREATE_FAILED	

snmp-traphost-delete

[top]

Deletes a host from the list of trap hosts.

Input Name	Range	Type	Description
host		string	Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address.
username		string optional	Specify the USM user name to indicate SNMPv3 traphost.

Errno	Description
EONTAPI_EINVAL	

Element definition: **community-info**

[top]

Information about a single community.

Name	Range	Type	Description
access-control		string	Access control of the community.The only supported value is "ro" (read-only).
community		string	Community name.

Element definition: **traphost-info**

[top]

Information about a single registered trap host.

Name	Range	Type	Description
host-name		string	Name of the trap host given by the user. Can be one of the following: hostname, ip-address, or alias Hostname will be a fully qualified Domain Name.
ip-address		string	IP address of the trap host.

APIs in Category: **storage-acp-firmware**

storage-acp-firmware-file-get-iter	This is an auto generated category.

storage-acp-firmware-file-get-iter

[top]

return the firmware file list

Input Name	Range	Type	Description
desired-attributes		storage-acp-firmware-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-acp-firmware-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-acp-firmware-file[] optional	The list of attributes of storage-acp-firmware objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-acp-firmware objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-acp-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
filename		string optional	Storage Firmware File Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **storage-adapter**

storage-adapter-enable-adapter
storage-adapter-get-adapter-info
storage-adapter-get-adapter-list

storage-adapter-enable-adapter

[top]

Enables specified host adapter. I/O traffic can be issued on the adapter.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also present, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT.
node-name		string	This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on.

Errno	Description
EAPIMISSINGARGUMENT	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
ENODENOTFOUND	

storage-adapter-get-adapter-info

[top]

Display the information about a specified host adapter. The information is displayed base on the controller interface type. ATA, Parallel SCSI, SAS, FC.

Input Name	Range	Type	Description
adapter-name		string	The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b".
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on.

Output Name	Range	Type	Description
adapter-details		adapter-detail-info[]	List of detail info for given adapter.

storage-adapter-get-adapter-list

[top]

Get the list of adapters present on this system.

Input Name	Range	Type	Description
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on.

Output Name	Range	Type	Description
adapter-list		adapter-name-elem[]	The adapter-list is a list of the names of adapters on this system. These adapter names can be used by other commands, including storage-adapter-enable-adapter and storage-adapter-disable-adapter.

Element definition: **adapter-detail-info**

[top]

Detailed information for specific adapter. Display different info base on the type of adapter.

Name	Range	Type	Description
adapter-fc		adapter-fc-info optional	Information for fc (Fibre Channel) adapter.
adapter-name		string	Adapter port name, which is adapter slot number and, if presented, the port letter designator together. Examples are 8a, 11b. Note that a physical adapter may contain multiple ports.
adapter-parallel-scsi		adapter-parallel-scsi-info optional	Information for parallel SCSI adapter.
adapter-sas		adapter-sas-info optional	Information for sas (serial attached SCSI) adapter.
adapter-type		string	Type of adapter present in the system. Possible values: "ADT_IF_ATA", "ADT_IF_PARALLEL_SCSI", "ADT_IF_SAS", "ADT_IF_FC".
node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.

Element definition: **adapter-name-elem**

[top]

A list of adapter-names that can be used in other storage-adapter interface calls.

Name	Range	Type	Description
adapter-name		string	The adapter name is the slot number and, if present, the port letter designate. Examples are 8a, 11b

node-name		string optional	This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name.

Element definition: **adapter-fc-info**

[top]

Detailed information for fc adapter.

Name	Range	Type	Description
adapter-bar		adapter-bar-info[] optional	List of base address information
adapter-model		string	Model of the adapter.
adapter-sff-info		adapter-sff-info optional	If the port has a small form factor transceiver/connector (also known as sff), then this is the vendor information on the sff.
adapter-sfp-info		adapter-sfp-info optional	If the port has a small form factor pluggable transceiver/connector (also known as sfp), then this is the vendor information on the sfp.
cache-line-sz	**[0..2^8-1]**	integer optional	Storage port adapter's data cache size,
fc-link-rate	**[0..2^16-1]**	integer	Link rate of Fibre Channel port.
fc-node-name		string	Fibre Channel node name.
fc-packet-size	**[0..2^32-1]**	integer	Size of Fibre Channel packets.
fc-port-name		string optional	Fibre Channel World Wide Port Name (WWPN) of adapter.
firmware-rev		string	Firmware revision of adapter.
hardware-rev		string	Hardware revision of adapter.
host-loop-id	**[0..125]**	integer optional	Storage port adapter's Fibre Channel loop id,
host-port-id	**[0..125]**	integer optional	Storage port adapter's port id,
is-enabled		boolean	Is the adapter enabled? true or false.
is-ext-gbic		boolean	Is the Fibre Channel gbic external? true or false.
is-in-use		boolean	Is the adapter inuse? true or false
is-pci-64-capable		boolean optional	Is the adapter pci-64-capable? true or false.
is-redundant		boolean	Is the adapter used in dual-attached config? true or false
is-sram-parity		boolean optional	Is the adapter sram parity configured and enabled? true or false.
preload-table-rev		string optional	Preload table revision of adapter.

Element definition: **adapter-parallel-scsi-info**

[top]

Detailed information for parallel SCSI adapter.

Name	Range	Type	Description
adapter-model		string	Model of the adapter.
bus-width		string	Possible values: "narrow", or "wide".
firmware-rev		string	Firmware revision of adapter.
hardware-rev		string	Hardware revision of adapter.
is-enabled		boolean	Is the adapter enabled?

Element definition: **adapter-sas-info**

[top]

Detailed information for sas (Serial Attached SCSI) adapter.

Name	Range	Type	Description
adapter-board-revision		string optional	Adapter board revision as assigned by the manufacturer. Will be missing if data not available or not supported.
adapter-date-code		string optional	Adapter data code assigned by the manufacturer. Will be missing if data not available or not supported.
adapter-family		string optional	Adapter family as assigned by the vendor. Example: 2432. Will be missing if data not available or not supported.
adapter-manufacturer		string optional	Manufacturing facility where adapter was built. Will be missing if data not available or not supported.
adapter-manufacturer-part-number		string optional	Adapter part number assigned by the manufacturer. Will be missing if data not available or not supported.
adapter-model		string	Model of the adapter. This is the same as adapter-vendor followed with adapter-family. Example: "Qlogic 2432"
adapter-part-number		string optional	Adapter part number assigned by the vendor. Will be missing if data not available or not supported.
adapter-serial-number		string optional	Adapter serial number. If the serial number is missing, a) It could be an internal connection , i.e. platforms with an embedded shelf b) The cable serial number can't be read or has a mal-formed serial number, part number. If the serial number is missing, but disks are present, a connection is present.
adapter-slot	**[0..20]**	integer	Slot number for the adapter port.
adapter-state		string	Current state of the adapter. Possible values: "up", "down", "offline_soft", "offline_hard", "offline_loopback".
adapter-vendor		string optional	Represents the adapter vendor. Example: Qlogic. Will be missing if data not available or not supported.
base-wwn		string	Physical base node world-wide name
firmware-rev		string	Firmware revision of adapter
hardware-rev		string	This is the hardware chip revision of adapter.
is-enabled		boolean	Is the adapter enabled?
is-in-use		boolean	Is adapter in use? true or false.
is-redundant		boolean	Is adapter dual-attached? true or false.

sas-adapter-disabled-phy-count	**[0..4]**	integer optional	Number of disabled PHYs on the host adapter.
sas-adapter-enabled-phy-count	**[0..4]**	integer optional	Number of enabled PHYs on the host adapter.
sas-adapter-expander-phy-states		sas-adapter-expander-phy-state-info[] optional	List of expander PHYs, a SAS adapter transceivers, state info. It will be missing if data is not available or if no expander is connected to the adapter.
sas-phy		phy-state-info[] optional	List of adapter PHY state info.
sas-qsfp-cable		sas-qsfp-cable-info optional	QSFP information of the cable. QSFP is acronym for Quad Small Form-factor Pluggable.. Will be missing if data not available or not or cable not present supported.

Element definition: **adapter-bar-info**

[top]

display base address information

Name	Range	Type	Description
bar-base		integer	Base address occupied by the storage port adapter. Range : [0..2^32-1]
bar-size		integer	Address range occupied by the storage port adapter. Range : [0..2^32-1]
bar-type		string	Type of base address information. Possible values are: "I/O", and "memory mapped I/O".

Element definition: **adapter-sff-info**

[top]

Information on small form factor transceiver/connector (also known as sff).

Name	Range	Type	Description
part-number		string	Vendor's part number for the sff. If data not available, value will be "not_available".
serial-number		string	Serial number for sff. If data not available, value will be "not_available".
speed-capabilities		string	Comma separated list of speed capabilities of the sff. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available".
vendor		string	sff vendor name. If data not available, value will be "not_available".

Element definition: **adapter-sfp-info**

[top]

Information on small form factor pluggable transceiver/connector (also known as sfp).

Name	Range	Type	Description
part-number		string	Vendor's part number for the sfp. If data not available, value will be "not_available".
serial-number		string	Serial number for sfp. If data not available, value will be "not_available".
speed-capabilities		string optional	Comma separated list of speed capabilities of the sfp. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available".
vendor		string	sfp vendor name If data not available, value will be "not_available".

Element definition: **phy-state-info**

[top]

Adapter PHY state information.

Name	Range	Type	Description
phy	**[0..3]**	integer	A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link.
phy-state		string	Adapter PHY state info. Possible values: "sas_phy_state_enabled_rate_unknown", "sas_phy_state_disabled", "sas_phy_state_speed_neg_failed", "sas_phy_state_SATA_OOB_failed", "sas_phy_state_enabled_15gbs", "sas_phy_state_enabled_30gbs", "sas_phy_state_enabled_60gbs", "sas_phy_state_enabled_120gbs", "unknown".
phy-wwn		string optional	Adapter PHY's world-wide name.

Element definition: **sas-adapter-expander-phy-state-info**

[top]

Adapter PHY and list of connected expander PHYs.

Name	Range	Type	Description
adapter-phy	**[0..3]**	integer	Adapter PHY connected to a list of expander PHYs.
expander-phy-states		expander-phy-state-info[]	List of all expanders connected to an adapter's PHY.

Element definition: **sas-qsfp-cable-info**

[top]

QSPF Cable information.

Name	Range	Type	Description
			Serial number of the attached cable as assigned by the cable

attached-serial-number		string optional	manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends.
cable-end-identifier		string optional	Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1".
cable-length		string optional	Length of the cable. Will be missing if data not available or not present.
cable-manufacturer		string optional	Manufacturer of the cable. Will be missing if data not available or not present.
cable-part-number		string optional	Cable part number as assigned by the manufacturer. Will be missing if data not available or not present.
cable-serial-number		string optional	This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-number. For the actual serial number see attached-serial-number. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device.
cable-technology		string optional	Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "active_copper", "passive_copper", "copper", "optical".

Element definition: **expander-phy-state-info**

[top]

Expander PHY state information.

Name	Range	Type	Description
expander-phy	**[0..70]**	integer	A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link.
expander-phy-attached-device-type		string	Device type attached to an adapter PHY. Possible values: • "initiator" - A device type that can initiate a SAS communication, • "expander" - A device type that facilitates communication between multiple SAS devices, • "sas_end_device" - A SAS device that is not contained within an expander device, • "sata_end_device" - A SATA end device, • "unknown" - An unknown device type.
			Expander PHY state info. Possible values: • "sas_phy_state_enabled_rate_unknown" - PHY is enabled but data transfer rate is unknown, • "sas_phy_state_disabled" - PHY is disabled, • "sas_phy_state_speed_neg_failed" - Data tranfer rate negotiation failed, • "sas_phy_state_sata_oob_failed" - SATA OOB(Out Of

expander-phy-state		string	Band) signaling failed, • "sas_phy_state_enabled_15gbs" - 1.5 Gb/s data transfer rate, • "sas_phy_state_enabled_30gbs" - 3.0 Gb/s data transfer rate, • "sas_phy_state_enabled_60gbs" - 6.0 Gb/s data transfer rate, • "sas_phy_state_enabled_120gbs" - 12.0 Gb/s data transfer rate, • "unknown" - Unknown PHY state.
expander-phy-wwn		string	Expander PHY's world-wide name.

APIs in Category: **storage-array**

storage-array-get-config-summary
storage-array-list-info
storage-array-modify
storage-array-port-modify
storage-array-ports-list-info
storage-array-rename

Storage arrays are external units that supply storage to NetApp systems. These APIs allow us to define, manipulate and map the storage arrays to the services they provide.

storage-array-get-config-summary

[top]

Generates a high level summary of array LUN pathing (connectivity) information.

Input Name	Range	Type	Description
node		string optional	Obtain array LUN pathing information for a specified node.
ownership-type		string optional	Option that allows the user to select which array LUNs are displayed. Valid values for ownership-type are 'assigned', 'unassigned' and 'all'. If ownership-type is set to 'assigned' only assigned array LUNs are displayed. If ownership-type is set to 'unassigned' only unassigned array LUNs are displayed. If ownership-type is set to 'all', all array LUNs are displayed. Default: 'all'.

Output Name	Range	Type	Description
config-summary		storage-array-config-summary[] optional	A summary of array LUN connectivity for each attached array.

Errno	Description
EINTERNALERROR	

storage-array-list-info

[top]

Retrieves a list of all array profiles known to the controller.

Input Name	Range	Type	Description
array-name		string optional	When specified, only the named array profile record will be returned. (28 chars)

Output Name	Range	Type	Description
array-profiles		storage-array-profile[]	A list of arrays (and their details)

Errno	Description
EINTERNALERROR	
EARRAYNOTFOUND	

storage-array-modify

[top]

Update an array profile with new or changed information.

Input Name	Range	Type	Description
all-path-fail-delay		integer optional	The time delay (in secs) to hold IO during All Path Failure Event.
array-name		string	The name of the array profile to update. (28 chars max)
is-upgrade-pending		boolean optional	Used to indicate that the specified array will under go an upgrade in the near future.
lun-queue-depth		integer optional	The queue depth assigned to array LUNs from this array.
max-queue-depth		integer optional	The target port queue depth for all target ports on this array.
model		string optional	The model of the array. (16 chars max)
options		string optional	Array profile specific options. (comma separated list of name/value pairs) (127 chars max)
path-failover-time		integer optional	The time delay (in secs) before switching the I/O path when the path is deleted.
prefix		string optional	A short label used to refer to this array. (7 chars max)
vendor		string optional	The name of the array's manufacturer. (8 chars max)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

storage-array-port-modify

[top]

Update an array port with new or changed information.

Input Name	Range	Type	Description
array-name		string	The name of the array profile to update. (28 chars max)
max-queue-depth		integer optional	The target port queue depth for this target port.

target-iqn		string optional	Target IQN.
tpgt		string optional	TPGT
utilization-policy		utilizationpolicytypes optional	The policy used while sending I/O to an array target port when it reaches queue depth.
wwnn		string optional	World wide node name of array's target port (64 chars).
wwpn		string optional	World wide port name of array's target port (64 chars).

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

storage-array-ports-list-info

[top]

generate a list of online array ports and their associated arrays

Input Name	Range	Type	Description
array-name		string optional	When supplied, only port records for the named array are returned. (28 chars)

Output Name	Range	Type	Description
array-ports		storage-array-port[] optional	A list of all array ports, or just the ports for the named array

Errno	Description
EINTERNALERROR	
EARRAYNOTFOUND	

storage-array-rename

[top]

Rename an array profile

Input Name	Range	Type	Description
array-name		string	The name of the array profile to update. (28 chars max)
new-name		string	The new name to assign to this array profile. (28 chars max)

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	

EVSERVER_OPERATION_NOT_PERMITTED	

Element definition: **storage-array-config-summary**

[top]

A summary of array LUN connectivity for each attached array.

Name	Range	Type	Description
array-name		string	The name assigned to the array this group of array LUNs is exported from. 28 character string, no spaces.
chassis-serial-number		string	The serial number assigned to the array.
device-type		string optional	Type of LUN device. Describes the type of lun device or tape library. Possible Values are: • "array_lun" - Array LUN type • "tape_mc" - Tape Drive or Media Changer/library type • "unknown" - Unknown device type
group-number		integer	A unique number associated with a set of array LUNs that share the exact same pathing/connectivity information. Range: [0..65535]
initiator-port		string	Initiator port name, e.g. 0a.
lun-count		integer	The number of array LUNs assigned to this group. Range: [0..65535]
switch-port		string	Name of switch port connected to the HBA (controller's initiator port), or UNKNOWN if direct attached.
target-iqn		string	World wide port name of array's target port (224 chars).
target-side-switch-port		string	Name of switch port connected to target array, or UNKNOWN if direct attached.
target-wwpn		string	World wide port name of array's target port (64 chars).

Element definition: **storage-array-port**

[top]

Maps array definition to target port

Name	Range	Type	Description
array-id		integer	Primary key (system defined) for the array record. Range: [0..2^64-1]
array-name		string	Name of the array in the array record. (28 char max)
connection-type		string optional	Describes the type of connection between the controller and the back end storage. Possible values are: • "direct" - Direct Attached • "fabric" - Fabric Attached
max-queue-depth		integer optional	The target port queue depth for this target port. Range: [0..2048]

port-stat-info		storage-array-port-stats[] optional	Contains statistics about each array port.
switch-port		string optional	For fabric attached connections, the switch port the array target port is connected to. N/A for direct attached.
target-iqn		string	The IQN of the iSCSI target.
target-port-speed		string optional	The speed that the target port has negotiated with its connected switch port, or initiator port if direct attached.
tpgt		integer	The target portal group of the array. Range: [0..2^16-1]
utilization-policy		string optional	Describes the behavior of Data ONTAP when an array target port reaches its queue depth and is being forced to wait before sending additional I/O. Possible values are: • "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default) • "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts.
wwnn		string	World wide node name of array's target port (64 chars).
wwpn		string	World wide port name of array's target port (64 chars).

Element definition: **storage-array-profile**

[top]

data describing characteristics/parameters of/about a storage array

Name	Range	Type	Description
affinity		string	Describes the affinity model supported by the array. Possible values are: • "none" - None • "aaa" - Active/Active Asymmettric • "ap" - Active/Passive • "mixed" - This array is presenting different affinity models to different controllers within the cluster.
all-path-fail-delay		integer	Extend All Path Failure Event (secs). Range: [0|30..90]
array-id		integer	primary key (system defined) for the array record. Range: [0..2^64-1]
errors		storage-array-error-info[] optional	A list of all errors for the requested array.
firmware		string	The firmware revision of the array. (64 chars max)
is-upgrade-pending		boolean	The is-upgrade-pending status for the array.
lun-queue-depth		integer	The default queue depths assigned to array LUNs from this array. Range: [3..32]
max-queue-depth		integer	The target port queue depth for all target ports on this array. Range: [8..2048]

model		string	The model name of the array. (16 chars max)
name		string	A unique node-level user supplied name for the array. (28 char max)
network-address		string	IP address/node name of the array's SNMP management port. (1024 char max)
optimization-policy		string	Describes the I/O optimization policy used by this array. Possible values are: • "ialua" - The array supports iALUA. • "ealua" - The array supports eALUA. • "symmetric" - All ports on the array will be treated equally. • "proprietary" - A vendor specific optimization is supported for this array. • "mixed" - This array supports multiple optimization policies, one per node. • "unknown" - No known optimization method is supported for this array (will be treated as if Symmetric)
options		string	A comma separated list of name value pairs of array specific settings. (128 chars max)
path-failover-time		integer	Path Failover Timeout (sec). Range: [0..32]
port-failover-type		string	The pathing failover supported by the array, either ACTIVE-ACTIVE or ACTIVE-PASSIVE.
prefix		string	A unique character code used to refer to this array. (7 chars max)
serial-number		string	The serial number of the array. (17 char max)
vendor		string	The name of the array's vendor, e.g. NetApp. (8 chars max)

Element definition: **utilizationpolicytypes**

[top]

normal|defer Possible values:

- "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default),
- "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts.

[none]

Element definition: **storage-array-error-info**

[top]

Contains error messages associated with array.

Name	Range	Type	Description
error-id		integer	A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1]
error-			

text		string	A description of the error being reported.
error-type		string	Enum describing type of error. ARRAY_INCONSISTENT_LUN_ADDRESSING_METHOD - 1. Array is using inconsistent LUN addressing schemes. ARRAY_DEVTYPE_ERROR - 2. Array has encountered a device class error. ARRAY_PATH_HIGH_ERROR - 3. Array has exceeded an error rate threshold on a given path. ARRAY_NON_OPTIMIZED_TP - 4. Array is experiencing service times greater than the threshold on the given target port. ARRAY_EXCESSIVE_TP_LATENCY - 5. Array is experiencing latency times greater than the threshold on the given target port.

Element definition: **storage-array-port-stats**

[top]

Contains statistics about an array port.

Name	Range	Type	Description
average-dynamic-queue-depth		integer	The average value of the dynamic target port queue depth. Range: [0..2^32-1]
average-latency-per-iop		integer	The average latency for I/O operations performed by this controller on this target port. Range: [0..2^32-1]
average-pending		integer	An average over time of how many commands are on the outstanding queue. Range: [0..2^32-1]
average-waiting		integer	An average over time of how many commands are on the waiting queue. Range: [0..2^32-1]
dynamic-queue-depth		integer	Current dynamic target port queue depth, the maximum number of commands allowed outstanding. Range: [0..2^32-1]
initiator-port		string	Initiator port name, e.g. 0a.
max-pending		integer	The largest number of commands observed on the outstanding queue. Range: [0..2^32-1]
max-waiting		integer	The largest number of commands observed on the waiting queue. Range: [0..2^32-1]
node		string	Node name of array's target port.
path-link-errors		integer	Number of link errors reported on the path. Range: [0..2^32-1]
percent-busy		integer	The percentage of time I/Os are outstanding on the port. Range: [0..100]
percent-waiting		integer	The percentage of time there are I/Os waiting on the waiting queue on the target port. Range: [0..100]
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-lun-in-use-count		integer	Number of disks in the IN-USE state on this target port. Range: [0..2^64-1]

APIs in Category: **storage-bridge**

storage-bridge-config-dump-collect
storage-bridge-config-dump-delete
storage-bridge-config-dump-get-iter
storage-bridge-coredump-collect
storage-bridge-coredump-delete
storage-bridge-coredump-get-iter
storage-bridge-firmware-firmware-update
storage-bridge-get
storage-bridge-get-iter

These APIs enable the retrieval of values associated with system bridges that have been added for monitoring. These are read-only APIs and hence require pre-addition of the bridges to be used for monitoring before these can be used. A system bridge is identified by its name (set by the administrator and fetched over SNMP) and the information about the same is broadly categorized into following areas:

1. Profile Information: It includes information like bridge's WWN, model, vendor etc. 2. Cooling Information: It includes information about the bridge's temperature sensors. 3. Connectivity Information: It includes information about the paths to the bridge from nodes via switch. 4. Interface Information: It includes information about the bridge's ports, their statistics and Small Form-factor Pluggable (SFP) connectors. 5. Error Information: It includes information about the errors logged in the bridge.

storage-bridge-config-dump-collect

[top]

Retrieve the dumpconfiguration file from the bridge.

Input Name	Range	Type	Description
bridge		string	Bridge Name

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	Job ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-config-dump-delete

[top]

Delete a saved dumpconfiguration file.

Input Name	Range	Type	Description
file		string	The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt.
node		node-name	The node where the dumpconfiguration file is located.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-config-dump-get-iter

[top]

Get a list of available bridge dumpconfiguration files.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-config-dump-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-bridge-config-dump-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-bridge-config-dump-info[] optional	The list of attributes of storage-bridge objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-bridge objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-bridge-coredump-collect

[top]

Collect the coredump file from the bridge.

Input Name	Range	Type	Description
name		string	Bridge Name

Output Name	Range	Type	Description

job-id	**[0..2^64-1]**	integer optional	Job ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-coredump-delete

[top]

Delete a saved coredump file

Input Name	Range	Type	Description
corename		string	Coredump Filename
name		string	Bridge Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-coredump-get-iter

[top]

Return a list of coredumps available.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-coredump-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-bridge-coredump-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge-coredump object. All storage-bridge-coredump objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-bridge-coredump-info[] optional	The list of attributes of storage-bridge-coredump objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-bridge-coredump objects to return.

num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-bridge-firmware-firmware-update

[top]

Download firmware to the specified bridge. The bridge needs to be rebooted for the firmware to be updated successfully.

Input Name	Range	Type	Description
bridge		string	The bridge to be updated.
force		boolean optional	Force a firmware download to the bridge.
skip		boolean optional	Skip checking for port path = 2.
uri		string	The URI location of the firmware file.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-get

[top]

Get the attributes of the storage-bridge.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	Name of the bridge.

Output Name	Range	Type	Description
attributes		storage-bridge-info	The attributes of the storage-bridge.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-bridge-get-iter

[top]

Iterate over a list of storage-bridge objects.

Input Name	Range	Type	Description
desired-attributes		storage-bridge-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-bridge-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-bridge-info[] optional	The list of attributes of storage-bridge objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-bridge objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-bridge-config-dump-info**

[top]

System bridge config-dump file When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bridge		string optional	The Bridge name of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable
file		string optional	The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt. Attributes: key, non-creatable, non-modifiable
node		node-name optional	The node where the dumpconfiguration file is located. Attributes: key, non-creatable, non-modifiable
serial-number		string optional	Serial number of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable
timestamp		datetime optional	Time when the dumpconfiguration file was collected. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-coredump-info**

[top]

Information about a bridge coredump When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
corename		string optional	The name of the coredump file. The coredump filename has the following format: core....mem Attributes: key, non-creatable, non-modifiable
name		string optional	The Bridge name of the bridge that generated the coredump. Attributes: non-creatable, non-modifiable
node		filer-id optional	The node where the coredump file is located. Attributes: non-creatable, non-modifiable
panic-string		string optional	Panic string for the panic that generate the coredump. Attributes: non-creatable, non-modifiable
panic-time		datetime optional	Time when the panic occurred. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of the bridge that generated the coredump. Attributes: key, non-creatable, non-modifiable

Element definition: **storage-bridge-info**

[top]

Storage Bridge When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address		ip-address optional	IP Address of the bridge. Attributes: required-for-create, modifiable
chassis-throughput-status		storage-bridge-throughput-status optional	Chassis throughput status. Attributes: non-creatable, non-modifiable Possible values: • "normal" , • "warning"
dram-single-bit-error-count	**[0..2^32-1]**	integer optional	Number of DRAM single-bit errors since reboot. Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware version of the bridge. Attributes: non-creatable, non-modifiable
is-being-monitored		boolean optional	Is bridge being monitored under Fabric Health Monitor? Attributes: non-creatable, non-modifiable
is-bridge-secure		boolean optional	Is bridge secured? Attributes: non-creatable, non-modifiable
last-reboot-reason		string optional	Reason for last reboot. Attributes: non-creatable, non-modifiable
last-reboot-time		datetime optional	Last time bridge was rebooted. Attributes: non-creatable, non-modifiable
managed-by		storage-bridge-mgmt-method optional	Monitoring method used by the bridge. Attributes: required-for-create, modifiable Possible values: • "snmp" , • "in_band"
model		string optional	Model of the bridge. Attributes: non-creatable, non-modifiable
name		string optional	Name of the bridge. Attributes: key, required-for-create, non-modifiable
serial-number		string optional	Serial Number of the bridge. Attributes: non-creatable, non-modifiable
status		storage-device-status optional	Status of the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Device Status Unknown, • "ok" - Device Status Ok, • "error" - Device Status Erroneous
storage-bridge-connectivity-list		storage-bridge-connectivity-info[] optional	Information about the individual storage path to the bridge.
storage-bridge-cooling-info		storage-bridge-cooling-info optional	Information about the storage bridge cooling environment.
storage-bridge-error-list		storage-bridge-error-info[] optional	Information about the invidual error.
storage-bridge-fc-		storage-brige-fc-port-info[]	Information about the individual fibre channel

port-list		optional	port.
storage-bridge-fc-port-sfp-list		storage-bridge-fc-port-sfp-info[] optional	Information about the individual sfp.
storage-bridge-fc-port-statistics-list		storage-bridge-fc-port-statistics-info[] optional	Statistics information about the individual fibre channel port.
storage-bridge-mini-sas-hd-list		storage-bridge-mini-sas-hd-info[] optional	Information about the individual Mini-SAS HD.
storage-bridge-power-supply-list		storage-bridge-power-supply-info[] optional	Information about the bridge power supplies.
storage-bridge-sas-port-list		storage-bridge-sas-port-info[] optional	Information about the individual SAS port.
storage-bridge-sas-port-qsfp-list		storage-bridge-sas-port-qsfp-info[] optional	Information about the individual sfp.
storage-bridge-sas-port-statistics-list		storage-bridge-sas-port-statistics-info[] optional	Statistics information about the individual SAS port.
symbolic-name		string optional	If set, symbolic name of the bridge, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable
vendor		storage-bridge-vendor optional	Vendor of the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "atto"
wwn		string optional	World Wide Name of the bridge. Attributes: non-creatable, non-modifiable

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-bridge-connectivity-info**

[top]

Information about the individual storage path to the bridge.

Name	Range	Type	Description
initiator-name		string optional	Name of the adapter in the node to which the bridge is connected. Attributes: non-creatable, non-modifiable
initiator-side-switch-port-id		string optional	WWN of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable
initiator-side-switch-port-name		string optional	Name of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable
node-name		node-name optional	Name of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable
node-uuid		uuid optional	UUID of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable
target-port-wwn		string optional	World wide name of the port in the bridge to which the node is connected. Attributes: non-creatable, non-modifiable
target-side-switch-port-id		string optional	WWN of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable
target-side-switch-port-name		string optional	Name of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-cooling-info**

[top]

Information about the storage bridge cooling environment.

Name	Range	Type	Description
maximum-safe-operating-temperature	**[0..2^32-1]**	integer optional	Maximum safe operating temperature (in degree cesius) reported by the sensor. Attributes: non-creatable, non-modifiable
minimum-safe-operating-temperature	**[-2^31..2^31-1]**	integer optional	Minimum safe operating temperature (in degree celsius) reported by the sensor. Attributes: non-creatable, non-modifiable

temperature-sensor-name		string optional	Name of the temperature sensor in the bridge. Attributes: non-creatable, non-modifiable
temperature-sensor-operational-status		storage-bridge-chassis-temp-status optional	Operational Status of the Temperature Sensor. Attributes: non-creatable, non-modifiable Possible values: • "normal" , • "warning" , • "critical"
temperature-sensor-reading	**[-2^31..2^31-1]**	integer optional	Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-error-info**

[top]

Information about the invidual error.

Name	Range	Type	Description
bridge-component-id	**[0..2^32-1]**	integer optional	SNMP identifier for the bridge component with error. Attributes: non-creatable, non-modifiable
bridge-component-name		string optional	Name of the bridge component with error. Attributes: non-creatable, non-modifiable
bridge-component-unique-id		string optional	Unique textual identifier for the bridge component with error. It refers to World Wide Name of the component if available, SNMP identifier otherwise. Attributes: non-creatable, non-modifiable
error-message		string optional	Text describing the error occurred in the bridge. Attributes: non-creatable, non-modifiable
error-type		storage-bridge-error-type optional	Type of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "bridge_unreachable" - Bridge is Unreachable over Management Network, • "temp_above_critical_level" - Bridge Temperature Above Critical Level, • "temp_below_critical_level" - Bridge Temperature Below Critical Level, • "temp_sensor_status_critical" - Temperature Sensor Status is Critical, • "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable, • "invalid_configuration" - Bridge FC Ports are not correctly configured, • "sas_port_offline" - Bridge SAS Port is Offline, • "link_failure" - Link to Bridge has Failed, • "fc_port_offline" - Bridge FC Port is Offline, • "sas_port_online" - Bridge SAS Port is Online, • "power_supply_offline" - Bridge Power Supply is Offline
severity		storage-bridge-error-	Severity of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Severity Unknown,

		severity optional	• "notice" - Notice, • "warning" - Warning, • "error" - Error

Element definition: **storage-bridge-fc-port-sfp-info**

[top]

Information about the individual sfp.

Name	Range	Type	Description
data-rate-capability		storage-bridge-fc-sfp-data-rate-capability optional	Data Rate capability of the small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "2gbps" - 2 gigabits/second., • "4gbps" - 4 gigabits/second., • "8gbps" - 8 gigabits/second., • "16gbps" - 16 gigabits/second., • "32gbps" - 32 gigabits/second.
fc-port-index	**[0..2^32-1]**	integer optional	Index of FC port. Attributes: non-creatable, non-modifiable
part-number		string optional	Part number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable
vendor		string optional	Vendor of the small form-factor pluggable. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-fc-port-statistics-info**

[top]

Statistics information about the individual fibre channel port.

Name	Range	Type	Description
index	**[0..2^32-1]**	integer optional	Index of FC port. Attributes: non-creatable, non-modifiable
invalid-crc-count	**[0..2^32-1]**	integer optional	Invalid CRC count for the FC port. Attributes: non-creatable, non-modifiable
invalid-primitive-count	**[0..2^32-1]**	integer optional	Bridge FC Port Error Primitive Count List Attributes: non-creatable, non-modifiable
invalid-txword-count	**[0..2^32-1]**	integer optional	Bridge FC Port Invalid TX Words List Attributes: non-creatable, non-modifiable
link-failures-count	**[0..2^32-1]**	integer optional	Link Failure count for the FC port. Attributes: non-creatable, non-modifiable
lip-count	**[0..2^32-1]**	integer optional	LIP count for the FC port. Attributes: non-creatable, non-modifiable
nos-count	**[0..2^32-1]**	integer optional	NOS count for the FC port. Attributes: non-creatable, non-modifiable
rx-words-count	**[0..2^32-**	integer	Number of words received by the FC port. Attributes: non-

	1]	optional	creatable, non-modifiable
signal-loss-count	**[0..2^32-1]**	integer optional	Signal Loss count for the FC port. Attributes: non-creatable, non-modifiable
sync-losses-count	**[0..2^32-1]**	integer optional	Sync Loss count for the FC port. Attributes: non-creatable, non-modifiable
time-since-reset	**[0..2^32-1]**	integer optional	Bridge FC Port Time Since Statistics Reset List Attributes: non-creatable, non-modifiable
tx-words-count	**[0..2^32-1]**	integer optional	Number of words transmitted by the FC port. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-mgmt-method**

[top]

SNMP|in-band Possible values:

- "snmp" ,
- "in_band"

[none]

Element definition: **storage-bridge-mini-sas-hd-info**

[top]

Information about the individual Mini-SAS HD.

Name	Range	Type	Description
mini-sas-hd-index-list	**[0..2^32-1]**	integer optional	Index of Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-part-number-list		string optional	Part number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-serial-number-list		string optional	Serial Number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-type-list		string optional	Type of the Mini-SAS HD. Attributes: non-creatable, non-modifiable
mini-sas-hd-vendor-list		string optional	Vendor of the Mini-SAS HD. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-power-supply-info**

[top]

Information about the bridge power supplies.

Name	Range	Type	Description
power-supply-index-list	**[0..2^32-1]**	integer optional	Bridge Power Supply Index List Attributes: non-creatable, non-modifiable
power-supply-name-list		string optional	Name of the bridge power supply. Attributes: non-creatable, non-modifiable
			Status of the bridge power supply. Attributes: non-

power-supply-status-list		storage-bridge-power-supply-status optional	creatable, non-modifiable Possible values: • "unknown" , • "down" , • "up"

Element definition: **storage-bridge-sas-port-info**

[top]

Information about the individual SAS port.

Name	Range	Type	Description
administrative-state		storage-bridge-sas-port-admin-state optional	Administrative state of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "disabled" , • "enabled"
data-rate-capability		storage-bridge-sas-port-data-rate-capability optional	Data Rate capability of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown data rate., • "1_5gbps" - 1.5 gigabits per second., • "3gbps" - 3 gigabits per second., • "6gbps" - 6 gigabits per second., • "12gbps" - 12 gigabits per second.
index	**[0..2^32-1]**	integer optional	Index of SAS port. Attributes: non-creatable, non-modifiable
negotiated-data-rate		storage-bridge-negotiated-sas-port-data-rate optional	Negotiated Data Rate of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown data rate., • "1_5gbps" - 1.5 gigabits., • "3gbps" - 3 gigabits., • "6gbps" - 6 gigabits., • "12gbps" - 12 gigabits.
operational-state		storage-bridge-sas-port-oper-state optional	Operational status of the SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline" , • "degraded"
phy1-operational-state		storage-bridge-sas-port-phy-oper-state optional	Operational state of 1st physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
			Operational state of 2nd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible

phy2-operational-state		storage-bridge-sas-port-phy-oper-state optional	values: • "unknown" , • "online" , • "offline"
phy3-operational-state		storage-bridge-sas-port-phy-oper-state optional	Operatinal state of 3rd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
phy4-operational-state		storage-bridge-sas-port-phy-oper-state optional	Operational state of 4th physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
sas-port-wwn		string optional	World Wide Name of the SAS port. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-sas-port-qsfp-info**

[top]

Information about the individual sfp.

Name	Range	Type	Description
part-number		string optional	Part Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable
qsfp-type		storage-bridge-qsfp-type optional	Type of quad small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown type., • "optical" - Optical quad small form factor pluggable., • "active_copper" - Active copper quad small form factor pluggable., • "passive_copper" - Passive copper quad small form factor pluggable.
sas-port-index	**[0..2^32-1]**	integer optional	Index of SAS port. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable
vendor		string optional	Vendor of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-sas-port-statistics-info**

[top]

Statistics information about the individual SAS port.

Name	Range	Type	Description
phy-disparity-count	**[0..2^32-1]**	integer optional	Disparity count for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-index	**[0..2^32-1]**	integer optional	Index of physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-invalid-crc-count	**[0..2^32-1]**	integer optional	Invalid CRC count for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-invalid-dword-count	**[0..2^32-1]**	integer optional	Invalid DWORD coung for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-link-changed-count	**[0..2^32-1]**	integer optional	Link changed count for the physical link in SAS port. Attributes: non-creatable, non-modifiable
phy-reset-count	**[0..2^32-1]**	integer optional	physical link reset count. Attributes: non-creatable, non-modifiable
phy-sync-losses-count	**[0..2^32-1]**	integer optional	Sync Loss count for the physical link in SAS port. Attributes: non-creatable, non-modifiable

Element definition: **storage-bridge-throughput-status**

[top]

normal|warning Possible values:

- "normal" ,
- "warning"

[none]

Element definition: **storage-bridge-vendor**

[top]

unknown|Atto Possible values:

- "unknown" ,
- "atto"

[none]

Element definition: **storage-brige-fc-port-info**

[top]

Information about the individual fibre channel port.

Name	Range	Type	Description
administrative-state		storage-bridge-fc-port-admin-state optional	Administrative status of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "disabled" ,

			"enabled"
configured-connection-mode		storage-bridge-configured-fc-port-connection-mode	Configured connection mode for the FC port. Attributes: non-creatable, non-modifiable Possible values: • "loop" - Arbitrated loop., • "ptp" - Point to point., • "loop_preferred" - Arbitrated loop preferred., • "ptp_preferred" - Point to point preferred.
configured-data-rate		storage-bridge-configured-fc-port-data-rate optional	Configured Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "auto" - auto, • "2gbps" - 2 gigabits/second., • "4gbps" - 4 gigabits/second., • "8gbps" - 8 gigabits/second., • "16gbps" - 16 gigabits/second.
data-rate-capability		storage-bridge-fc-port-data-rate-capability optional	Data Rate capability of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "2gbps" - 2 gigabits per second., • "4gbps" - 4 gigabits per second., • "8gbps" - 8 gigabits per second., • "16gbps" - 16 gigabits per second., • "32gbps" - 32 gigabits per second.
fc-port-wwn		string optional	World Wide Name of the FC port. Attributes: non-creatable, non-modifiable
index	**[0..2^32-1]**	integer optional	Index of FC port. Attributes: non-creatable, non-modifiable
negotiated-data-rate		storage-bridge-negotiated-fc-port-data-rate optional	Negotiated Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "2gb" , • "4gb" , • "8gb" , • "16gb" , • "32gb"
operational-state		storage-bridge-fc-port-oper-state optional	Operational status of the FC port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"
peer-port-name		string optional	FC port's peer port name. Attributes: non-creatable, non-modifiable

Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-bridge-chassis-temp-status**

[top]

normal|warning|critical Possible values:

- "normal" ,
- "warning" ,
- "critical"

[none]

Element definition: **storage-bridge-configured-fc-port-connection-mode**

[top]

loop|ptp|loop-preferred|ptp-preferred Possible values:

- "loop" - Arbitrated loop.,
- "ptp" - Point to point.,
- "loop_preferred" - Arbitrated loop preferred.,
- "ptp_preferred" - Point to point preferred.

[none]

Element definition: **storage-bridge-configured-fc-port-data-rate**

[top]

auto|2Gb|4Gb|8Gb|16Gb Possible values:

- "auto" - auto,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,

"16gbps" - 16 gigabits/second.

[none]

Element definition: **storage-bridge-error-severity** [top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

Element definition: **storage-bridge-error-type** [top]

unknown|bridge-unreachable|temp-above-critical-level|temp-below-critical-level|temp-sensor-status-critical|temp-sensor-status-unavailable|invalid-configuration|sas-port-offline|link-failure|sas-port-online|power-supply-offline Possible values:

- "unknown" - Unknown,
- "bridge_unreachable" - Bridge is Unreachable over Management Network,
- "temp_above_critical_level" - Bridge Temperature Above Critical Level,
- "temp_below_critical_level" - Bridge Temperature Below Critical Level,
- "temp_sensor_status_critical" - Temperature Sensor Status is Critical,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,
- "invalid_configuration" - Bridge FC Ports are not correctly configured,
- "sas_port_offline" - Bridge SAS Port is Offline,
- "link_failure" - Link to Bridge has Failed,
- "fc_port_offline" - Bridge FC Port is Offline,
- "sas_port_online" - Bridge SAS Port is Online,
- "power_supply_offline" - Bridge Power Supply is Offline

[none]

Element definition: **storage-bridge-fc-port-admin-state** [top]

unknown|disabled|enabled Possible values:

- "unknown" ,
- "disabled" ,
- "enabled"

[none]

Element definition: **storage-bridge-fc-port-data-rate-capability** [top]

2Gbps|4Gbps|8Gbps|16Gbps|32Gbps Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits per second.,
- "4gbps" - 4 gigabits per second.,
- "8gbps" - 8 gigabits per second.,
- "16gbps" - 16 gigabits per second.,
- "32gbps" - 32 gigabits per second.

[none]

Element definition: **storage-bridge-fc-port-oper-state** [top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

Element definition: **storage-bridge-fc-sfp-data-rate-capability** [top]

2Gb|4Gb|8Gb|16Gb|32Gb Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,
- "16gbps" - 16 gigabits/second.,
- "32gbps" - 32 gigabits/second.

[none]

Element definition: **storage-bridge-negotiated-fc-port-data-rate** [top]

unknown|2|4|8|16 Possible values:

- "unknown" ,
- "2gb" ,
- "4gb" ,
- "8gb" ,

- "16gb" ,
- "32gb"

[none]

Element definition: **storage-bridge-negotiated-sas-port-data-rate**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits.,
- "3gbps" - 3 gigabits.,
- "6gbps" - 6 gigabits.,
- "12gbps" - 12 gigabits.

[none]

Element definition: **storage-bridge-power-supply-status**

[top]

unknown|down|up Possible values:

- "unknown" ,
- "down" ,
- "up"

[none]

Element definition: **storage-bridge-qsfp-type**

[top]

unknown|optical|active-copper|passive-copper Possible values:

- "unknown" - Unknown type.,
- "optical" - Optical quad small form factor pluggable.,
- "active_copper" - Active copper quad small form factor pluggable.,
- "passive_copper" - Passive copper quad small form factor pluggable.

[none]

Element definition: **storage-bridge-sas-port-admin-state**

[top]

unknown|disabled|enabled Possible values:

- "unknown" ,

- "disabled" ,
- "enabled"

[none]

Element definition: **storage-bridge-sas-port-data-rate-capability**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits per second.,
- "3gbps" - 3 gigabits per second.,
- "6gbps" - 6 gigabits per second.,
- "12gbps" - 12 gigabits per second.

[none]

Element definition: **storage-bridge-sas-port-oper-state**

[top]

unknown|online|offline|degraded Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "degraded"

[none]

Element definition: **storage-bridge-sas-port-phy-oper-state**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **storage-disk**

storage-disk-fw-status
storage-disk-get-iter
storage-disk-set-foreign-lun

storage-disk-fw-status

[top]

Based on input, displays: The number of disks waiting for firmware update, Average firmware update duration per disk in seconds, Estimate for background firmware download completion in minutes, or Name of disk that cannot be updated.

Input Name	Range	Type	Description
status-type		string required	Possible values: 1. time-estimate 2. waiting-disks 3. average-time 4. pending-disks

Output Name	Range	Type	Description
fw-update-status		fw-update-status-info[]	Firmware Update status.

Errno	Description
EINTERNALERROR	

storage-disk-get-iter

[top]

Disk enumeration ZAPI. Get disk information about one or more disks, from the Storage Subsystem. Clustered ONTAP iterator APIs support filtering of output, to constrain the disks that are included in the return list, and/or what information is returned about each disk. The default is to return all information about all disks in the cluster. That list may be reduced using the 'query' input element. For example, the return list may include only (1) Disks visible to a particular cluster node "nodeA", e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:*" (2) A particular disk visible to a particular node, e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:6a.01". (3) A disk with a particular unique id, e.g., "query.storage-disk-info.disk-uid=20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000" (4) Disks with a name that matches a certain wildcard pattern, e.g., "query.storage-disk-info.disk-name=1.*" or "query.storage-disk-info.disk-name=NET-1.*" for virtual disks. (5) Disks assigned to a particular node. e.g., "query.storage-disk-info.disk-ownership-info.home-node-id=1252487" or "query.storage-disk-info.disk-ownership-info.home-node-name=nodeA". (6) Some subset of disks in the cluster or visible to a particular node in the cluster. If 'desired-attributes' is included, then only those data specified by in 'desired-attributes' are returned for each disk. If there is badly formed input or an invalid input value is specified, then EINVALIDINPUTERROR is returned. If there is some internal error which prevents processing of this request, then EINTERNALERROR is returned.

Input Name	Range	Type	Description
desired-attributes		storage-disk-info optional	May be used to express which data are returned for each disk. If omitted, then all available data are returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return to the caller per iteration. The default is 2000 for clustered ONTAP. It's 200 for D-blade calls. If the total number of records exceeds either the 'max-records' supplied, or the number the system is capable of returning at one time, then storage-disk-get-iter must be called multiple times to get all the records. The 'num-records' output field informs the caller how many records are returned by a single iterative call to storage-disk-get-iter.
query		storage-disk-info optional	May be used to express which disks to include in the return list. If omitted, then all disks are returned. If the input query is badly formed, then EINVALIDINPUTERROR is returned. If there are no disks which match the input query, then there is no error. However, no disk records are returned.
tag		string optional	This indicates where to continue iteration. A first invocation would normally omit this, to indicate to start iteration with the first disk. If multiple invocations are required to fetch all disk records, then each successive call would set 'tag' to the 'next-tag' value from the prior invocation. If an invalid value is specified, then EINVAIDINPUTERROR is returned.

Output Name	Range	Type	Description
attributes-list		storage-disk-info[] optional	List of disk records.

next-tag		string optional	An opaque string indicating that there are more records to fetch. If this field is returned, then the API must be called again with the 'tag' parameter set to this 'next-tag' value, to continue fetching additional records from this point. Omitted if there are no more records to fetch.
num-records	**[0..2000]**	integer	The number of records returned in this call. This is guaranteed to be less than or equal to the minimum of 'max-records' and 2000.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

storage-disk-set-foreign-lun

[top]

Sets or Unsets an array LUN as foreign

Input Name	Range	Type	Description
disk		string	Disk Name
is-foreign-lun		boolean	Is Foreign LUN

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **fw-update-status-info**

[top]

List of disks that are pending updates, but not able to be updated.

Name	Range	Type	Description
avg-duration		integer optional	Average firmware update duration per disk in seconds.
update-completion		integer optional	Estimate for background firmware download completion in minutes.
update-unable		string optional	Name of disk that cannot be updated.
waiting-disks		integer optional	The number of disks waiting for firmware update.

Element definition: **storage-disk-info**

[top]

Disk record.

Name	Range	Type	Description
disk-inventory-info		disk-inventory-info optional	Device driver information. Omitted if excluded by 'desired-attributes'.
disk-metrocluster-info		disk-metrocluster-info optional	Disk metrocluster related information. Ommitted if excluded by 'desired-attributes'.
disk-name		string optional	Name of disk, e.g. "1.1.2" or "NET-1.1" for a virtual disk. Omitted if excluded by 'desired-attributes'.
disk-ownership-info		disk-ownership-info optional	Disk ownership information. Omitted if excluded by 'desired-attributes'.
disk-paths		disk-path-info[]	List of all known paths associated with this disk. Omitted if no paths to report, or if excluded by 'desired-attributes'.

		optional	
disk-raid-info		disk-raid-info optional	RAID disk information. Omitted if disk is not visible to RAID, or if this information is excluded by 'desired-attributes'.
disk-stats-info		disk-stats-info optional	Statistics about disk. Omitted if no stats to report, or if excluded by 'desired-attributes'.
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'.
node-name		string optional	Name of the node supplying this disk record. Omitted if excluded by 'desired-attributes'.

Element definition: **disk-inventory-info**

[top]

Disk inventory info.

Name	Range	Type	Description
bytes-per-sector	**[0..2^16-1]**	integer optional	Number of bytes per disk sector. A sector count element, such as 'capacity-sectors' and 'right-size-sectors', may be multiplied by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'.
capacity-sectors	**[0..2^64-1]**	integer optional	Total number of disk sectors on this disk, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'.
carrier-id		string optional	Unique identifier of the disk carrier. Maximum length of 34 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'.
carrier-serialno		string optional	Unique serial number of the disk carrier. Maximum length of 17 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'.
checksum-compatibility		string optional	An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Omitted if not available or if excluded by 'desired-attributes'. Starting in Data ONTAP 8.1, "zoned/block" is no longer supported. Possible values: • "advanced_zoned" - Supports advanced zoned checksum. • "block" - Supports block checksum. • "none" - No checksum support. • "zoned/advanced_zoned" - Supports zoned and advanced zoned checksum (this value is no longer supported).
disk-class		string optional	Disk class of this disk. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Omitted if excluded by 'desired attributes'. Possible values: • "unknown" - Unknown disk class. • "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA. • "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS. • "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA. • "solid_state" - Solid-state drives. Includes disk type SSD. • "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN • "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.
disk-cluster-name		string optional	A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'. Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
			Disk interface type. Omitted if excluded by 'desired-attributes'. Possible values: • "ATA" • "BSAS"

disk-type		string optional	• "FCAL" • "LUN" • "MSATA" • "SAS" • "SSD" • "SSD_NVM" • "FSAS" • "VMDISK" • "unknown"
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by desired-attributes'.
drawer		integer optional	Used for shelves with drawers. Identifies the physical drawer where this disk is located.
drawer-slot		integer optional	Used for shelves with drawers. Identifies which slot in the drawer this disk is located.
firmware-revision		string optional	Firmware revision of disk. The format of the firmware revision will vary depending on the type of disk and its vendor. Omitted if excluded by 'desired-attributes'.
grown-defect-list-count	**[0..2^64-1]**	integer optional	Number of entries in the drive's grown defect list. Omitted if excluded by 'desired-attributes'.
health-monitor-time-interval	**[0..2^63-1]**	integer optional	Number of seconds we have been keeping track of errors from storage health monitor (SHM). Omitted if excluded by 'desired-attributes'.
hw-minimum-os		string optional	Hardware minimum supported Data ONTAP version for the disk. Omitted if not available or if excluded by 'desired-attributes'.
import-in-progress		boolean optional	For array LUNs marked with container-type of foreign, this value indicates when data is actively being imported from this disk. Omitted if excluded by 'desired-attributes'.
is-dynamically-qualified		boolean optional	True if the drive was dynamically qualified. Omitted if excluded by 'desired-attributes'.
is-foreign		boolean optional	Indicates an array LUN has been designated as a foreign LUN and cannot be assigned. Omitted if excluded by 'desired-attributes'.
is-internal-disk		boolean optional	True if the disk is located within an internal shelf. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
is-multidisk-carrier		boolean optional	True if the disk is in a carrier which contains more than one disk. Omitted if excluded by 'desired-attributes'.
is-shareable		boolean optional	True if the disk supports sharing. Omitted if excluded by 'desired-attributes'.
is-shared		boolean optional	True if the disk is a shared disk. Omitted if excluded by 'desired-attributes'.
location		string optional	Name of the node to which this disk is attached. Only Only available on virtual machines. Omitted if excluded by 'desired-attributes'.
location-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which this disk is attached. Only available on virtual machines. Omitted if excluded by 'desired-attributes'.
media-scrub-count	**[0..2^64-1]**	integer optional	Number of times media has been scrubbed since controller last powered on. Omitted if not available.
media-scrub-last-done-time-interval	**[0..2^63-1]**	integer optional	Number of seconds since a media scrub last completed. Omitted if not available.
model		string optional	Disk model string. Omitted if excluded by 'desired-attributes'.
reservation-key		string optional	Reservation key identifies which initiator target nexus holds the persistent reservation on this disk, 0x0 if there is none(range: 0x0 .. 0xffffffffffffffff). Omitted if excluded by 'desired-attributes'.
reservation-type		string optional	Describes the persistent disk reservation type. Omitted if excluded by 'desired-attributes'. Possible values: • "rs" - Read Shared Reservation. • "we" - Write Exclusive Reservation. • "re" - Read Exclusive Reservation. • "ea" - Exclusive Access Reservation. • "sa" - Shared Access Reservation. • "wero" - Write Exclusive Registrants Only Reservation. • "earo" - Exclusive Access Registrants Only Reservation. • "wear" - Write Exclusive All Registrants Reservation. • "eaar" - Exclusive Access All Registrants Reservation. • "none" - No Reservation.
right-size-sectors	**[0..2^64-1]**	integer optional	Number of usable disk sectors that remain after subtracting the right-size adjustment for this disk. Given in units of 'bytes-per-sector'. Omitted if information is unavailable, or if excluded by 'desired-attributes'.
rpm		integer optional	Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, if rpm does not apply to this 'disk-type', or if excluded by 'desired-attributes'.

serial-number		string optional	Disk serial number. Maximum length of 129 characters. Omitted if excluded by 'desired-attributes'.
shelf		string optional	Disk shelf, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
shelf-bay		string optional	Disk shelf bay, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
shelf-uid		string optional	Unique identifier for a shelf as reported by SES. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
stack-id	**[0..2^32-1].**	integer optional	A cluster unique id for a collection of one or more interconnected shelves. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.
storage-sed-info		storage-sed-info optional	Self-encrypting disk info Omitted if disk is not a Self-Encrypting Disk (SED), or if excluded by "desired-attributes'.
storage-ssd-info		storage-ssd-info optional	solid state device specific lifecycle data Omitted if 'disk-type' is not "SSD", or if excluded by 'desired-attributes'.
vendor		string optional	Vendor of this disk. Omitted if excluded by 'desired-attributes'.
virtual-machine-disk-info		virtual-machine-disk-info optional	A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few.
vmdisk-backing-info		vmdisk-backing-info optional	Backing info block for virtual machine disks.
vmdisk-target-address		string optional	Target address of the VM Disk.

Element definition: **disk-metrocluster-info**

[top]

Disk Metrocluster Info.

Name	Range	Type	Description
is-local-attach		boolean optional	Indicates if a disk is locally attached, vs remotely attached. A locally attached disk resides in the same proximity as the host cluster vs. attached to the remote cluster.

Element definition: **disk-ownership-info**

[top]

Disk sanown information.

Name	Range	Type	Description
age	**[0..2^64-1]**	integer optional	Elapsed time in milli seconds since the last time the ownership was read from disk
data-home		string optional	Name of the home owner of the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data-home-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of the home owner of the data partition (in case of root-data partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'.
data-owner		string optional	Name of node that currently owns the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the data partition (in case of root-data partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'.
data1-home		string optional	Name of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data1-home-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'.
data1-owner		string optional	Name of node that currently owns the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data1-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the data1 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'.
data2-home		string optional	Name of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data2-	**[0..2^32-**	integer	ID (NVRAM ID) of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) of

home-id	**1]**	optional	this disk. Omitted if excluded by 'desired-attributes'.
data2-owner		string optional	Name of node that currently owns the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'.
data2-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the data2 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'.
disk-pool-list-info		disk-pool-info[] optional	List of node-suggested pool pair for every disk.
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'.
dr-home-node-id	**[0..2^32-1].**	integer optional	ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home id.
dr-home-node-name		string optional	This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home owner.
home-node-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
home-node-name		string optional	Name of the home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
is-failed		boolean optional	'true' if the disk is failed such that its ownership cannot be determined. Omitted if excluded by 'desired-attributes'.
owner-node-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node that currently owns this disk. Normally 'owner-node-id' matches 'home-node-id'. However, SFO style HA changes 'owner-node-id' when it localizes partner storage on takeover; and restores it to 'home-node-id' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
owner-node-name		string optional	Name of node that currently owns this disk. Normally 'owner-node-name' matches 'home-node-name'. However, SFO style HA changes 'owner-node-name' when it localizes partner storage on takeover; and restores it to 'home-node-name' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
owner-update-count	**[0..2^32-1]**	integer optional	Number of times ownership changed since disk was unowned.
pool	**[0..2^32-1]**	integer optional	Pool to which disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'.
reserved-by-node-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node which currently holds the persistent reservation on this disk, 0 if there is none. Omitted if excluded by 'desired-attributes'.
root-home		string optional	Name of the home owner of the root partition on this disk. Omitted if excluded by 'desired-attributes'.
root-home-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of the home owner of the root partition of this disk. Omitted if excluded by 'desired-attributes'.
root-owner		string optional	Name of node that currently owns the root partition on this disk. Omitted if excluded by 'desired-attributes'.
root-owner-id	**[0..2^32-1]**	integer optional	ID (NVRAM ID) of node to which the root partition of this disk is assigned. Omitted if excluded by 'desired-attributes'.

Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

Name	Range	Type	Description
array-name		string	The name of the array providing the lun.
disk-name		string	The name of the disk this path information is for
disk-port		string optional	Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target.
disk-port-name		string optional	Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target. Possible values: • "FC:A" • "FC:B" • "SA:A" • "SA:B"

			• "NV:A" • "NV:B"
disk-uid		string	Disk's UID, as supplied by the hardware, used to uniquely identify this disk.
initiator-io-kbps		integer	Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1]
initiator-iops		integer	Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1]
initiator-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1]
initiator-port		string	Initiator port name, e.g. 0a.
initiator-port-speed		string	The speed that the initiator port has negotiated with its connected switch, or target port if direct attached.
initiator-side-switch-port		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach
lun-io-kbps		integer	Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1]
lun-iops		integer	Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1]
lun-number		integer	LU number. Range: [0..65535]
lun-path-use-state		string	ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time.
node		string	Controller with the initiator port for this path.
path-io-kbps		integer	Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1]
path-iops		integer	Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1]
path-link-errors		integer	Number of link errors reported on the path. Range: [0..2^32-1]
path-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1]
path-quality		integer	The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1]
preferred-target-port		boolean optional	For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are: • true: This path routes to a preferred target port group for this array LUN. • false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group.
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-iqn		string optional	Target IQN of target port providing the disk.
target-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1]
target-port-access-state		string	failover optimization type
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwnn		string	World Wide Node Name of the target device.
target-wwpn		string	World Wide Port Name of target port providing the disk.
tpgn		integer	The Target Port Group Number of the array's target port. Range: [0..2^64-1]
vmdisk-device-id		integer optional	The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1]

vmdisk-hypervisor-area-name		string optional	The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore.
vmdisk-hypervisor-file-name		string optional	The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk"

Element definition: **disk-raid-info**

[top]

RAID specific information about a disk, including RAID specific disk properties, and the disk's overlying container.

Name	Range	Type	Description
active-node-name		string optional	Name of the node that is the active RAID controller for this disk, if any. Omitted if unavailable, or excluded by 'desired-attrributes'.
container-type		string optional	Type of overlying disk container. Omitted if information is unavailable, or excluded by 'desired-attributes'. Possible values: • "aggregate" - Container is an aggregate. • "broken" - Container is broken pool. • "foreign" - Array LUN has been marked foreign. • "labelmaint" - Container is online label maintenance list. • "maintenance" - Container is disk maintenance center. • "mediator" - Container is a mediator disk. • "remote" - Disk belongs to the remote cluster. • "shared" - Container is storage pool. • "spare" - Container is spare pool. • "unassigned" - Disk ownership has not been assigned. • "unknown" - Container is currently unknown. This is the default setting. • "volume" - Container is a traditional volume. • "unsupported" - Container is not supported.
disk-aggregate-info		disk-aggregate-info optional	Information giving disk's basic disposition within its overlying aggregate or traditional volume. Omitted if container-type is not "aggregate" or "volume", or if excluded by 'desired-attributes'.
disk-outage-info		disk-outage-info optional	Information about a disk that is not in service. Omitted if container-type is not "broken", "maintenance", "labelmaint", or "unassigned", or if excluded by 'desired-attributes'.
disk-shared-info		disk-shared-info optional	Information giving disk's basic disposition within its overlying storage pool. Omitted if container-type is not "shared", or if excluded by 'desired-attributes'.
disk-spare-info		disk-spare-info optional	Information giving disk's basic disposition within its overlying spare pool. Omitted if container-type is not "spare", or if excluded by 'desired-attributes'.
disk-state		disk-state-info[] optional	Information giving RAID specific state of the disk. Omitted if information is unavailable.
disk-uid		string optional	Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'.
effective-disk-type		string optional	Effective disk interface type. Disks can report different physical 'disk-type', but the same 'effective-disk-type'. Disks with the same 'effective-disk-type' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'. Possible values: • "ATA" • "FCAL" • "LUN" • "MSATA" • "SAS" • "BSAS" • "SSD" • "SSD_NVM" • "FSAS" • "VMDISK" • "unknown"
effective-rpm		integer optional	Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-rpm'. Disks with the same 'effective- rpm' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'.

physical-blocks	**[0..2^64-1]**	integer optional	RAID recorded disk capacity expressed in units of 4096-byte blocks. Typically this is the disk capacity reported by disk driver, but rounded down to the nearest 4096-byte block. Omitted if information is unavailable, or if excluded by 'desired-attributes'.
position		string optional	Position of disk relative to its container-type. Omitted if excluded by 'desired-attributes'. Possible values: • "copy" - RAID group copy destination disk. • "data" - RAID group data disk. • "tparity" - RAID group third (anti-diagonal) parity disk. • "dparity" - RAID group diagonal parity disk. • "orphan" - Disk is orphan of an aggregate or traditional volume. • "parity" - RAID group parity disk. • "pending" - Disk is pending addition to an aggregate or traditional volume. • "present" - Disk is present in system. This is the default setting.
spare-pool		string optional	Name of RAID managed spare pool with which this disk is associated. Omitted if unavailable. Generally determined both by whether ownership has been assigned for this disk, and whether SyncMirror feature is supported on the reporting node. This disk may not currently be contained within this spare-pool, such as if it's been allocated to an aggregate or removed from service. This is the spare pool with which disk would be contained if/when it is initialized or released as a spare. Omitted if excluded by 'desired-attributes'. Possible values: • "Pool0" - Disk is associated with spare Pool0. • "Pool1" - Disk is associated with spare Pool1. • "spare" - Disk is associated with the general spare pool. • "unknown" - Cannot determine spare pool associativity for this disk.
standard-disk-type		standarddisktype optional	Industry standard disk type. Note suggested display strings for each value. Possible values: • "sata" - SATA, Serial Advanced Technology Attachment, • "fc" - FC, Fibre Channel, • "nl_sas" - NL-SAS, Near Line SAS • "lun" - LUN, SCSI Logical Unit Number (e.g. Array), • "sas" - SAS, Serial Attached SCSI, • "scsi" - SCSI, Small Computer System Interface, • "ssd" - SSD, Solid-State Disk, • "vm_disk" - VM Disk, Hypervisor Virtual Disk, • "unknown" - Unknown Disk Type, • "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk Attributes: non-creatable, non-modifiable
used-blocks	**[0..2^64-1]**	integer optional	RAID recorded size of file system region on this disk, given in units of 4096-byte blocks. Typically based upon the disk's right-size capacity, but it may be smaller if RAID has downsized this disk, such as due to reconstruct replacing a smaller with a larger disk. This is distinct from WAFL usage of file system space. Omitted if information is unavailable, or if excluded by 'desired-attributes'.

Element definition: **disk-stats-info**

[top]

Contains disk statistics.

Name	Range	Type	Description
average-latency	**[0..2^32-1]**	integer optional	Access time to disk in milliseconds. Omitted if excluded by 'desired-attributes'.
bytes-per-sector	**[0..2^16-1]**	integer optional	Number of bytes per disk sector. A sector count element, such as 'sectors-read' and 'sectors-written', may be multipled by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'.
disk-io-kbps	**[0..2^64-1]**	integer optional	Rolling average of kilobytes per second read and written to this disk. Omitted if excluded by 'desired-attributes'.
disk-iops	**[0..2^64-1]**	integer optional	Rolling average of I/O operations per second read and written to this disk. Omitted if excluded by 'desired-attributes'.
disk-uid		string optional	Unique identifier of disk for this disk. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'.
import-in-progress		boolean optional	For disks marked with container-type = foreign, this value is true when data is actively being imported from this disk.
path-error-count	**[0..2^32-1]**	integer optional	The number of errors on this disk. Omitted if excluded by 'desired-attributes'.
power-on-time-interval	**[0..2^63-1]**	integer optional	Number of seconds the drive has been powered on. Omitted if excluded by 'desired-attributes'.

sectors-read	**[0..2^64-1]**	integer optional	Number of disk sectors read since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'.
sectors-written	**[0..2^64-1]**	integer optional	Number of disk sectors written since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'.

Element definition: **disk-aggregate-info**

[top]

Details giving disk's basic disposition within its overlying aggregate or traditional volume. Information that is specific to a disk contained within an aggregate or traditional volume is returned here. Returned only if 'container-type' is "aggregate" or "volume".

Name	Range	Type	Description
aggregate-name		string optional	Name of aggregate or traditional volume with which this disk is associated. Omitted if excluded by 'desired-attributes'.
checksum-type		string optional	The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'. Possible values: • "advanced_zoned" - Advanced zoned checksum. • "block" - Block checksum. • "none" - No checksum type assigned. • "wafl" - WAFL checksum. • "zoned" - Zoned checksum (this value is no longer supported).
copy-destination-cluster-name		string optional	cluster unique name of the copy destination disk. 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'. Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-destination-name		string optional	name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-percent-complete	**[0..100]**	integer optional	Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true, and if position is not "copy".
copy-reason		string optional	The reason this disk has been marked for a disk copy operation. Possible values include: • "evacuation" - Disk is marked for evacuation. • "layout_optimization" - Disk is marked for layout optimization. • "shared_disk_replacement"- Disk is marked for replacement. Omitted if disk copy is not in progress or excluded by 'desired-attributes'.
is-evacuating		boolean optional	True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'.
is-in-root-aggr		boolean optional	True only if this disk is in a root aggregate.
is-media-scrubbing		boolean optional	True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'.
is-offline		boolean optional	True if disk is offline. Omitted if excluded by 'desired-attributes'.
is-prefailed		boolean optional	True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'.
is-reconstructing		boolean optional	True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'.
is-replacing		boolean optional	True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'.
is-zeroed		boolean optional	True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'.
is-zeroing		boolean optional	True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'.
		string	Name of plex with which this disk is associated. Omitted if disk is not associated with a plex, or if

plex-name		optional	excluded by 'desired-attributes'.
raid-group-name		string optional	Name of RAID group to which this disk belongs. Omitted if disk does not belong to a RAID group, or if excluded by 'desired-attributes'.
reconstruct-percent-complete	**[0..100]**	integer optional	Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'.
zeroing-percent-complete	**[0..100]**	integer optional	Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'.

Element definition: **disk-outage-info**

[top]

Information about a disk that is not in service.

Name	Range	Type	Description
is-in-fdr		boolean optional	True if disk has entry in the persistent Failed Disk Registry. Omitted if excluded by 'desired-attributes'.
reason		string	Reason disk is not in service. Omitted if excluded by 'desired-attributes'. Possible values: • "admin failed" - Admin has persistently failed disk. • "admin removed" - Admin requested spare disk to be removed from system. • "admin testing" - Admin isolated disk for maintenance testing. • "bad label" - Disk has bad RAID label. • "bypassed" - Disk has been bypassed. • "failed" - Disk is persistently failed. • "init failed" - Disk failed initialization. • "label version" - Disk has invalid RAID label version. • "labeled broken" - Disk was persistently failed in a prior Data ONTAP release. • "labelmaint" - Disk is isolated for online label maintenance. • "LUN resized" - Array LUN was inappropriately resized. • "missing" - Disk has gone missing. • "not responding" - Disk is non-responsive. • "predict failure" - Disk failure is predicted. capacity than previously. • "rawsize shrank" - Disk reporting smaller • "recovering" - Disk is underoing recovery. • "sanitizing" - Disk is in process of being sanitized. • "sanitized" - Disk sanitization complete, but admin has not yet released disk back to the spare pool. in this release. • "trad_vol_disk" - Traditional Volume Disk, not supported on clustered data ONTAP systems. • "SnapLock Disk" - SnapLock disk, not supported. • "testing" - System isolated disk for maintenance testing. • "unassigned" - Disk ownership has not been assigned. • "unknown" - Don't know reason disk is not in service.

Element definition: **disk-pool-info**

[top]

node-suggested pool pair for every disk.

Name	Range	Type	Description
node-for-pool		string optional	Name of node for which the pool suggestion corresponds to.
pool-suggestion	**[0..2^32-1]**	integer optional	Pool to which partitions in the disk may be assigned. If the disk is part of a loop that does not have any disks assigned to the specific node or has disks of mutiple pools assigned to the specific node, the pool will be 255.

Element definition: **disk-shared-info**

[top]

Details giving disk's basic disposition within its overlying storage pool. Information that is specific to a disk that is contained within a storage pool belongs here.

Name	Range	Type	Description

aggregate-list		shared-aggregate-info[] optional	List of aggregates sharing this disk. Omitted if not available or excluded by 'desired attributes'.
checksum-type		string optional	The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'. Possible values: • "advanced_zoned" - Advanced zoned checksum. • "block" - Block checksum. • "zoned" - Zoned checksum (this value is no longer supported).
copy-destination-cluster-name		string optional	disk cluster name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-destination-name		string optional	name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'.
copy-percent-complete	**[0..100]**	integer optional	Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true.
copy-progress	**[0..2^64-1]**	integer optional	Progress of disk copy in blocks. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true.
copy-reason		string optional	The reason this disk has been marked for a disk copy operation. Possible values include: • "evacuation" - Disk is marked for evacuation. • "layout_optimization" - Disk is marked for layout optimization. Omitted if disk copy is not in progress or excluded by 'desired-attributes'.
copy-size	**[0..2^64-1]**	integer optional	total size of disk copy in blocks. If N partitions of disk are under disk copy, copy-size will refer to cumulative size of those N partitions. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true.
is-evacuating		boolean optional	True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'.
is-in-root-aggr		boolean optional	True only if this disk has in a partition in a root aggregate.
is-media-scrubbing		boolean optional	True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'.
is-offline		boolean optional	True if disk is offline. Omitted if excluded by 'desired-attributes'.
is-prefailed		boolean optional	True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'.
is-reconstructing		boolean optional	True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'.
is-replacing		boolean optional	True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'.
is-sparecore		boolean optional	True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'.
is-zeroed		boolean optional	True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'.
is-zeroing		boolean optional	True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'.
num-data-partitions	**[0..100]**	integer optional	This field indicates the number of data partitions on this disk if it's a shared disk.
num-root-partitions	**[0..100]**	integer optional	This field indicates the number of root partitions on this disk if it's a shared disk.
num-total-partitions	**[0..100]**	integer optional	This field indicates the total number of partitions on this disk if it's a shared disk.
partial-record		boolean optional	True if record for this disk is sent by only one node. From D-blade it will always be set as true. At cluster level we set it to false if we received record from both nodes.
partitioning-type		string optional	This field indicates whether disk is partitioned or storage pool disk. This field is available only if 'container-type' is "shared". Possible values include: • "root_data" - Disk is root-data partitioned disk. • "root_data1_data2" - Disk is root-data1-data2 partitioned disk. • "storage_pool" - Disk is storage pool disk. Omitted if excluded by 'desired attributes'.

reconstruct-percent-complete	**[0..100]**	integer optional	Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'.
reconstruct-progress	**[0..2^64-1]**	integer optional	Completion of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true.
reconstruct-size	**[0..2^64-1]**	integer optional	Total size of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true.
sparecore-eligible-nodes		node-name[] optional	List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'.
static-part-method		boolean optional	This field indicates if the partitioning method corresponding to this disk is a static (init-time) partitioning method.
storage-pool		string optional	Cluster wide unique name of RAID managed storage pool with which this disk is associated.
storage-pool-uuid		string optional	Unique identifier of RAID managed storage pool with which this disk is associated.
zeroing-percent-complete	**[0..100]**	integer optional	Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'.
zeroing-progress	**[0..2^64-1]**	integer optional	Completion of disk zeroing in blocks. Omitted if is-zeroing' is not true.
zeroing-size	**[0..2^64-1]**	integer optional	Total size of disk zeroing in blocks. Omitted if is-zeroing' is not true.

Element definition: **disk-spare-info**

[top]

Details giving disk's basic disposition within its overlying spare pool. Information that is specific to a disk that is contained within a spare pool belongs here.

Name	Range	Type	Description
is-media-scrubbing		boolean optional	True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'.
is-offline		boolean optional	True if disk is offline. Omitted if excluded by 'desired-attributes'.
is-sparecore		boolean optional	True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'.
is-zeroed		boolean optional	True if disk has been pre-zeroed. Omitted if excluded by 'desired-attributes'.
is-zeroing		boolean optional	True if disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'.
sparecore-eligible-nodes		node-name[] optional	List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'.
zeroing-percent-complete	**[0..100]**	integer optional	Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'.

Element definition: **disk-state-info**

[top]

Details giving disk's RAID specific state information. For disks that are shared between both nodes this will give states as seen by both nodes.

Name	Range	Type	Description
			RAID specific state of the disk. Possible values: • "invalid" • "notzeroed" • "zeroing" • "zeroed" • "inuse" • "notpresent" • "failing" • "failed" • "unfailing" • "uninited"

disk-fsm-state		string optional	• "orphaned" • "unknown" • "sparing" • "fakezeroed" • "sdc" • "offline" • "online" • "partitioning" • "partitioned" • "unpartitioning" • "unpartitioned" • "present" • "replacing" • "offlining" • "prefailing"
node-name		string optional	Name of the node reporting disk state.

Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

Element definition: **storage-sed-info**

[top]

Self-encrypting disk (SED) info. Available from the disk-encrypt cluster ZAPI.

Name	Range	Type	Description
data-key-id		string optional	Key ID of the authentication key that the SED currently requires for authorization to modify the data protection controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
fips-key-id		string optional	Key ID of the authentication key that the SED currently requires for authorization to modify the FIPS-compliance controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-fips-sed		boolean	True if the disk is a FIPS-certified SED. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-non-fips-sed		boolean	True if the disk is a SED that is not FIPS-certified. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-power-on-lock-enabled		boolean optional	State of SED power-lock-enable control that determines whether authentication is required after subsequent SED power-cycles before I/O is allowed. True will require authentication; false indicates no authentication is needed to allow I/O. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
is-sed		boolean	True if the disk is a SED with or without FIPS certification. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.
protection-mode		string optional	The summary of the data protection and FIPS compliance states. Omitted if disk is not a SED, or if excluded by 'desired-attributes'.

Element definition: **storage-ssd-info**

[top]

Storage info block for solid-state storage devices.

Name	Range	Type	Description
percent-rated-life-used	**[0..255]**	integer optional	An estimate of the percentage of device life that has been used, based on the actual device usage and the manufacturer's prediction of device life. A value greater than 99 indicates that the estimated endurance has been consumed, but may not indicate a device failure. Omitted if value is unknown.
percent-spares-consumed	**[0..100]**	integer optional	Percentage of device spare blocks that have been used. Each device has a number of spare blocks that will be used when a data block can no longer be used to store data. This value reports what percentage of the spares have already been consumed. Omitted if value is unknown.
percent-spares-consumed-limit	**[0..100]**	integer optional	Spares consumed percentage limit reported by the device. Omitted if value is unknown.

Element definition: **virtual-machine-disk-info**

[top]

A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few.

Name	Range	Type	Description
vmdisk-adapter-device		string optional	Backing adapter device name. Example is "vmhba32".
vmdisk-adapter-driver		string optional	Backing adapter driver name. For example, "mptsas". For iSCSI connections, this element represents name of the iSCSI initiator. Example is "iqn.1998-01.com.vmware:esxhostname-5d1555b6".
vmdisk-adapter-model		string optional	Backing adapter model type. Example is "LSI1064E", "iSCSI Software Adapter".
vmdisk-adapter-pci		string optional	Backing adapter PCI device ID for the virtual disk. For iSCSI connections, this element is empty. Example is "50:00.0".
vmdisk-container-name		string optional	Container associated with the VM Disk. Example is "container1"
vmdisk-lun-canonical-name		string optional	Hypervisor-assigned unique ID of the backing device (disk or LUN). Example is "naa.75hsfe523hnsfhf46323".
vmdisk-lun-capacity	**[0..2^64-1]**	integer optional	Size of the backing device (disk or LUN) in bytes. Example is "4294967296".
vmdisk-lun-model		string optional	Backing device (disk or lun) model. Example is "LUN", "MBE2073RC".
vmdisk-lun-partition		integer optional	Backing disk partition number where the corresponding VM disk file resides. Example is "3".
vmdisk-lun-vendor-name		string optional	Name of the backing device manufacturer. Example is "FUJITSU".
vmdisk-object-name		string optional	Page blob associated with the VM Disk. Example is "blob1"
vmdisk-storage-account		string optional	Storage account associated with the VM Disk. Example is "storageaccount1"
vmdisk-store-capacity	**[0..2^64-1]**	integer optional	The size of the disk backing store in bytes. Example is "4294967296".
vmdisk-store-nas-path		string optional	Full path to the backing store. This field is valid only for NAS connections. Example is "myvm.domain.com:/backingStoreName".
vmdisk-store-type		string optional	Type of the disk backing store. It can be a VMFS volume, a directory on network-attached storage, or a local file system path. Possible values are "NFS", "VMFS".
vmdisk-target-iscsi-address		string optional	The iSCSI IP address (IPv4 or IPv6) of the disk backing target. This field is valid only for iSCSI connections. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmdisk-target-iscsi-name		string optional	The iSCSI name of the disk backing target. This field is valid only for iSCSI connections. Example is "iSCSI-targ.com.optional-string".
vmdisk-target-lun-id		string optional	SCSI device name for the backing disk. It takes the form target-id:lun-id. Example is "3:1".
vmhost-error		string optional	Error (if any) while retrieving the virtual disk details. Example is "vSphere server is missing".

Element definition: **vmdisk-backing-info**

[top]

Backing info block for virtual machine disks.

Name	Range	Type	Description
vmdisk-backing-device-id		string	Device id of the underlying disk.
vmdisk-backing-disk-model		string	Product id of the underlying disk.
vmdisk-backing-serial-number		string	Serial number of the underlying disk.
vmdisk-backing-vendor-id		string	Vendor of the underlying disk.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **shared-aggregate-info**

[top]

Name of desired aggregate.

Name	Range	Type	Description
aggregate-name		string optional	String representing name of the aggregate.

APIs in Category: **storage-disk-firmware**

storage-disk-firmware-file-get-iter	This is an auto generated category.

storage-disk-firmware-file-get-iter

[top]

return the firmware file list

Input Name	Range	Type	Description
desired-attributes		storage-disk-firmware-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-disk-firmware-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-disk-firmware-file[] optional	The list of attributes of storage-acp-firmware objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-acp-firmware objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-disk-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
filename		string optional	Storage Firmware File Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **storage-initiator**

storage-initiator-balance
storage-initiator-disk-path-list-info
storage-initiator-errors-list-info
storage-initiator-get-load
storage-initiator-path-list-info
storage-initiator-path-quiesce
storage-initiator-path-resume

These APIs are used to get information on initiator ports as related to their role as a gateway to back end storage.

storage-initiator-balance

[top]

Balances primary/secondary array LUN paths across available initiator ports based on I/O load. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

Input Name	Range	Type	Description
node		string	node to balance initiator ports on

Errno	Description
EINTERNALERROR	

storage-initiator-disk-path-list-info

[top]

Returns path information and statistics for a given disk or all disks. We use the word disk to refer to an array lun, real disk, or Solid State Device This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

Input Name	Range	Type	Description
disk-name		string optional	The name of the disk to list path information for. If not supplied all paths to all attached targets are returned.

Output Name	Range	Type	Description
disk-path-info		disk-path-info[]	A table of per path statistics, errors and other related data for this disk

Errno	Description
EINTERNALERROR	
EDISKNOTFOUND	

storage-initiator-errors-list-info

[top]

Lists all known disk/configuration errors associated with an array or shelves acting like array.

Input Name	Range	Type	Description
array-name		string optional	The name of the array to list error information for. (28 chars)
disk-name		string optional	The name of the disk or array lun to list error information for. If not specified, all errors for all disks/array LUNs will be returned.

Output Name	Range	Type	Description
errors		storage-error-info[] optional	A list of all errors for the requested array/shelf or disks/luns.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EARRAYNOTFOUND	
EDISKNOTFOUND	

storage-initiator-get-load

[top]

Gets disk I/O rates for a given fibre channel initiator port or for all initiator ports if no port is specified. The term disk refers to an array LUN, actual disk, or solid state device. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

Input Name	Range	Type	Description
node		string optional	Obtain disk I/O rates for initiator ports on the specified node.
port		string optional	Port to show load on, e.g. 0a.

Output Name	Range	Type	Description
load-info		storage-initiator-load-info[] optional	A table of per disk load related information for the named port. Omitted if no array LUNs are visible, or some other internal error occurs.

storage-initiator-path-list-info

[top]

Returns information and statistics on all known paths to back end storage.

Input Name	Range	Type	Description
node		string optional	Obtain back end storage path statistics for this node.

Output Name	Range	Type	Description
path-info		storage-initiator-path-info[] optional	A table of back end path statistics, errors and other related data.

Errno	Description
EINTERNALERROR	

storage-initiator-path-quiesce

[top]

Quiesces an array LUN on a path. A quiesced array LUN will not be sent I/O on the specified path.

Input Name	Range	Type	Description
initiator		string	The initiator port of the path that I/O will be quiesced on.
lun-number		integer optional	LU number. If this value is not specified then the command applies for the specified path. Range: [0..65535]
node		string	The node name on which the quiesce is issued
path-failure-threshold		integer optional	The path failure count, exceeding the specified value within wait duration will quiesce the path. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. wait-duration must be specified along with path-failure-threshold. Range: [1..100]
target-wwpn		string	The array target port of the path that I/O will be quiesced on. World wide port number has to be specified without colons.
wait-duration		integer optional	The time duration in which path is monitored for path failures. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. path-failure-threshold must be specified along with wait-duration. Range: [1..1440]

Errno	Description
EINTERNALERROR	
EINVALIDPATH	
ECANTQUIESCELASTPATH	
EDISKNOTFOUND	
EINVALIDTARGET	
EQUIESCEFAILED	
ELUNQUIESCING	
EQUIESCENOTSUPPORTED	
ETHRESHOLDWAIT	
ENOLUNQUIESCEONPATHQ	

storage-initiator-path-resume

[top]

Resumes I/O to array LUN on a path that was previously quiesced. Resuming I/O to a non-quiesced array LUN is a no-op and not an error.

Input Name	Range	Type	Description
initiator		string	The initiator port of the path that I/O will be resumed to.
lun-number		integer optional	LU number. If this value is not specified then the specified path will be resumed. Range: [0..65535]
node		string	The node name on which the resume is issued
target-wwpn		string	The array target port of the path that I/O will be resumed to. World wide port number has to be specified without colons.

Errno	Description
EINTERNALERROR	
EINVALIDPATH	
EDISKNOTFOUND	
EINVALIDTARGET	
ERESUMEFAILED	
ENOLUNRESUMEONPATHQ	

Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

Name	Range	Type	Description
array-name		string	The name of the array providing the lun.
disk-name		string	The name of the disk this path information is for
disk-port		string optional	Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target.
disk-port-name		string optional	Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target. Possible values: • "FC:A" • "FC:B" • "SA:A" • "SA:B" • "NV:A" • "NV:B"
disk-uid		string	Disk's UID, as supplied by the hardware, used to uniquely identify this disk.
initiator-io-kbps		integer	Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1]
initiator-iops		integer	Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1]
initiator-lun-in-use-		integer	Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1]

count			
initiator-port		string	Initiator port name, e.g. 0a.
initiator-port-speed		string	The speed that the initiator port has negotiated with its connected switch, or target port if direct attached.
initiator-side-switch-port		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach
lun-io-kbps		integer	Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1]
lun-iops		integer	Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1]
lun-number		integer	LU number. Range: [0..65535]
lun-path-use-state		string	ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time.
node		string	Controller with the initiator port for this path.
path-io-kbps		integer	Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1]
path-iops		integer	Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1]
path-link-errors		integer	Number of link errors reported on the path. Range: [0..2^32-1]
path-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1]
path-quality		integer	The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1]
preferred-target-port		boolean optional	For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are: • true: This path routes to a preferred target port group for this array LUN. • false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group.
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-iqn		string optional	Target IQN of target port providing the disk.

target-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1]
target-port-access-state		string	failover optimization type
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwnn		string	World Wide Node Name of the target device.
target-wwpn		string	World Wide Port Name of target port providing the disk.
tpgn		integer	The Target Port Group Number of the array's target port. Range: [0..2^64-1]
vmdisk-device-id		integer optional	The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1]
vmdisk-hypervisor-area-name		string optional	The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore.
vmdisk-hypervisor-file-name		string optional	The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk"

Element definition: **storage-error-info**

[top]

Contains error messages associated with back end array/shelf/LUNs.

Name	Range	Type	Description
array-name		string	Name of the array/shelf with the configuration error.
disk-name		string	The name of the disk or array lun this error information is for.
disk-uid		string	Disk's UID, as supplied by the hardware, used to uniquely identify this disk.
error-id		integer	A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1]
error-text		string	A description of the error being reported.
error-type	**[1..16]**	integer	Enum describing type of error. Possible values: • 1 -Redundancy error, less than two paths to a disk. • 2 -Redundancy error, device is only accessible via a single fault domain, all paths go into the same target port group. • 3 -Device is a control LUN. • 4 -This foreign LUN has a reservation. • 5 -LUN too large; a LUN has been detected that is larger than the maximum size supported. • 6 -LUN too small; a LUN has been detected that is smaller than the minimum size supported. • 7 -Invalid Block Size; a LUN has been detected that has an unsupported block size. • 8 -A target port is accessible via multiple HBAs but the device to

			LUN id mappings aren't the same. • 9 -A device is presented at different LUN ids on different ports. • 10 -Multiple failover mode policies detected. • 11 -Unknown array LUN. • 12 -Data ONTAP(R) LUN. • 13 -Disk firmware is downrev. • 14 -Disk is not supported. • 15 -This disk is in a failed state. • 16 -This disk does not match the All-Flash Optimized personality of the system.
lun-serial-number		string	The serial number of the lun the error occurs on, blank if the error is not lun related.
node		string	The nodename reporting the disk or array lun with the error.

Element definition: **storage-initiator-load-info**

[top]

Contains per port per disk load information.

Name	Range	Type	Description
initiator-port		string	Initiator port name, e.g. 0a. If port is not specified, data for all ports is returned.
io-count		integer	Megabytes of data sent to this disk over this port. Range: [0..2^32-1]
lun-number		integer	Logical Unit Number. Range: [0..65535]
nodename		string	IP address of the node serving the port in dotted-decimal format (for example, "192.168.11.12").
percent-io		string	Percentage of all I/O on this port sent to this disk. Range: [0..100]
serial-number		string	Disk/LUN serial number. Maximum length of 129 characters.
switch-name		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach.
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwpn		string	World Wide Port Name of array's target port.

Element definition: **storage-initiator-path-info**

[top]

Contains per path statistics, errors and other related data.

Name	Range	Type	Description
array-name		string	The name of the array providing this path is connected to.
device-type		string optional	Type of LUN device. Describes the type of lun device or tape library. Possible Values are: • "array_lun" - Array LUN type • "tape_mc" - Tape Drive or Media Changer/library type • "unknown" - Unknown device type

initiator-io-kbps		integer	Rolling average of kilobytes per second read and written over this initiator port Range: [0..2^64-1]
initiator-iops		integer	Rolling average of I/O operations per second over this initiator port Range: [0..2^64-1]
initiator-lun-in-use-count		integer	Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1]
initiator-port		string	Initiator port name, e.g. 0a.
initiator-port-speed		string	The speed that the initiator port has negotiated with its connected switch port, or target port if direct attached.
initiator-side-switch-port		string	The name of the switch connected to the controller's initiator port, or N/A when using direct attach.
node		string	The name of the node providing this path information.
path-failure-threshold		integer	The path failure count, exceeding this value within wait duration will quiesce the path. Range: [0..2^32-1]
path-io-kbps		integer	Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1]
path-iops		integer	Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1]
path-link-errors		integer	Number link errors reported on the path. Range: [0..2^32-1]
path-lun-in-use-count		integer	Number of disks in the IN-USE state on this path. Range: [0..2^64-1]
path-quality		integer	The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1]
target-io-kbps		integer	Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1]
target-iops		integer	Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1]
target-iqn		string optional	World wide unique identification of iSCSI target.
target-lun-in-use-count		integer	Number of disks in the IN-USE state on this target port. Range: [0..2^64-1]
target-side-switch-port		string	Name of the switch port connected to the target array, or UNKNOWN if direct attached.
target-wwpn		string	World Wide Port Name of target port providing the disk.
tpgn		integer	The Target Port Group Number of the array's target port. Range: [0..2^64-1]
vmdisk-		integer	The device id used for the virtual device (also used by the hypervisor)

device-id		optional	Range: [0..2^32-1]
wait-duration		integer	The time duration in which path is monitored for path failure. Range: [0..2^32-1]

APIs in Category: **storage-iscsi-initiator**

storage-iscsi-initiator-add-target
storage-iscsi-initiator-connect
storage-iscsi-initiator-disconnect
storage-iscsi-initiator-get-iter
storage-iscsi-initiator-remove-target

storage-iscsi-initiator-add-target

[top]

Add an iSCSI target.

Input Name	Range	Type	Description
administrative-status		service-state optional	Specifies the initial administrative status of the connection. The default setting is up. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Possible values: • "down" , • "up"
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-name		string	The target name. Example: iqn.2012-06.com.bsdctl:target0
target-portal		string	The target's IP address. Example: 10.7.125.10
target-type		iscsi-initiator-target-type	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-iscsi-initiator-connect

[top]

Connect to an iSCSI target.

Input Name	Range	Type	Description
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-type		iscsi-initiator-target-type optional	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-iscsi-initiator-disconnect

[top]

Disconnect from an iSCSI target.

Input Name	Range	Type	Description
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-type		iscsi-initiator-target-	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks,

		type optional	• "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-iscsi-initiator-get-iter

[top]

Iterate over a list of iSCSI targets.

Input Name	Range	Type	Description
desired-attributes		storage-iscsi-initiator-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-iscsi-initiator-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-iscsi-initiator object. All storage-iscsi-initiator objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-iscsi-initiator-info[] optional	The list of attributes of storage-iscsi-initiator objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-iscsi-initiator objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

[top]

storage-iscsi-initiator-remove-target

Remove an iSCSI target.

Input Name	Range	Type	Description
label		string	The user defined identifier for the iSCSI target.
node		node-name	The name of the node.
target-type		iscsi-initiator-target-type optional	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

Element definition: **storage-iscsi-initiator-info**

[top]

iSCSI Initiator Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
administrative-status		service-state optional	Specifies the administrative status of the connection. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Attributes: non-creatable, non-modifiable Possible values: • "down" , • "up"
failure-reason		string optional	The reason for a failure. The possible reasons include internal errors, networking errors, and user errors. Attributes: non-creatable, non-modifiable
label		string optional	The user defined identifier for the iSCSI target. Attributes: key, non-creatable, non-modifiable
node		node-name optional	The name of the node. Attributes: key, non-creatable, non-modifiable
operational-		service-state	Specifies the operational status of the connection. Attributes: non-creatable, non-modifiable Possible values:

status		optional	• "down" , • "up"
target-name		string optional	The target name. Example: iqn.2012-06.com.bsdctl:target0 Attributes: non-creatable, non-modifiable
target-portal		string optional	The target's IP address. Example: 10.7.125.10 Attributes: non-creatable, non-modifiable
target-type		iscsi-initiator-target-type optional	The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Attributes: key, non-creatable, non-modifiable Possible values: • "external" - External iSCSI session target has external disks, • "mailbox" - Mailbox iSCSI session target has mailbox disks, • "partner" - Partner iSCSI session target has partner disks, • "partner2" - Partner2 iSCSI session target has partner disks, • "partner3" - Partner3 iSCSI session target has partner disks, • "partner4" - Partner4 iSCSI session target has partner disks, • "partner5" - Partner5 iSCSI session target has partner disks, • "partner6" - Partner6 iSCSI session target has partner disks, • "partner7" - Partner7 iSCSI session target has partner disks, • "partner8" - Partner8 iSCSI session target has partner disks, • "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP, • "dr_partner" - Target has DR partner disks for MetroCluster over IP

Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

APIs in Category: **storage-pool**

storage-pool-add
storage-pool-aggregate-get-iter
storage-pool-available-capacity-get-iter
storage-pool-create
storage-pool-delete
storage-pool-disk-get-iter
storage-pool-get-iter
storage-pool-reassign
storage-pool-rename

This set of ZAPIs allows managing the storage pools in the cluster. Storage Pools are managed using storage pool names which are unique across the cluster.

storage-pool-add

[top]

Add disks to a storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
auto-grow-aggregates		boolean optional	Automatically grow the existing aggregates that are eligible for growing.
disk-count		integer optional	The number of disks that should be added to the storage pool. This option cannot be used with disk-list.
disk-list		disk-name[] optional	List of spare disks that need to be added to the storage pool. They should be of the same size as the existing disks in the storage pool.
nodes		node-name[] optional	List of nodes from which the spare disks that need to be added to storage pool can be selected.
simulate		boolean optional	Simulates the addition of disks to the given storage pool. If set to \"true\", addition of disks won't happen but returns a list of aggregates that would auto-grow and the size of the aggregate prior to grow and also after the auto-grow.
storage-pool		string	Name of the Storage Pool to which the spare disks will be added.

Output Name	Range	Type	Description
aggregates-autogrow-list		aggregate-autogrow-info optional	Information of aggregates that will auto-grow
available-capacity		size	The current available capacity in the pool in bytes.
new-available-capacity		size	The new available capacity in the pool in bytes after adding the disks to storage pool.
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.

result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".
selected-disks		disk-name[] optional	List of spare disks that would have been added to the storage pool.

Errno	Description
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	

storage-pool-aggregate-get-iter

[top]

This is a ZAPI used to iterate over a list of aggregates provisioned from storage pool.

Input Name	Range	Type	Description
desired-attributes		storage-pool-aggregate-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-aggregate-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-aggregate-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-available-capacity-get-iter

[top]

This is a ZAPI used to iterate over all available capacities available on each node in the cluster. These available capacities are listed per storage pool on each node.

Input Name	Range	Type	Description
desired-attributes		storage-pool-available-capacity-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-available-capacity-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-available-capacity-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-create

[top]

Create a storage pool. Capacity can be allocated to aggregates from these storage pools using 'aggr-add'.

Input Name	Range	Type	Description
disk-count		integer optional	The number of disks that are part of the storage pool.
disk-list		disk-name[] optional	List of spare disks that should be used to create the storage pool.
			Usable size of the disk in bytes. Disks that are within 5% of the

disk-size		size optional	specified size will be selected for use in the storage pool. If it is not specified smallest disks are selected first. This option cannot be used with \"disk-list\".
nodes		node-name[] optional	The list of nodes in which the storage pool resides.
simulate		boolean optional	Simulate the creation of storage pool. If set to \"true\", new storage pool won't be created but returns the minimum allocation unit size of the storage pool that would have been created. Selected disk list would also be returned for the disk-count option. By default, simulate option is set to false.
storage-pool		string	Name of the storage pool to be created.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this storage-pool.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.
selected-allocation-unit-size		size optional	Minimum allocation unit size of the storage pool that would have been created.
selected-disks		disk-name[] optional	List of spare disks selected for the storage pool that would have been created.

Errno	Description
E_CFT_PRECOMMIT_PHASE	
E_CFT_QUERY_FAIL	

storage-pool-delete

[top]

Delete the specified storage pool. A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
storage-pool		string	Name of the storage pool to be deleted.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-pool-disk-get-iter

[top]

This is a ZAPI used to iterate over all disks in storage pool. These disks are listed per Storage Pool

Input Name	Range	Type	Description
desired-attributes		storage-pool-disk-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-disk-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-disk-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-get-iter

[top]

This is a ZAPI used to iterate over all the storage pools in the cluster and retrieve attributes of individual storage pool.

Input Name	Range	Type	Description
desired-		storage-pool-	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		info optional	present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-pool-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-pool-info[] optional	The list of attributes of storage-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-pool-reassign

[top]

Reassign capacity from one node to another node in storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
allocation-units	**[1..4]**	integer	The available capacity to be assigned in the form of count that is multiple of 'allocation-unit-size'. Available capacity can be found through API 'storage-pool-available-capacity-get-iter' where allocation unit size and total number of allocation units will be specified.
from-node		node-name	The node that owns the available capacity which needs to be re-assigned. The amount of available capacity owned by a Node can be determined using the fields 'allocation-units' and 'allocation-unit-size' from the 'storage-pool-available-capacity-get-iter' API. Capacity can be re-assigned only in multiples of 'allocation-unit-size'
storage-pool		string	The cluster-wide unique name of the storage pool.
to-node		node-name	The node to which the capacity will be assigned. To view the existing free space in the node, use 'storage-pool-available-capacity-get-iter'

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.

result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-pool-rename

[top]

Rename storage pool

Input Name	Range	Type	Description
new-name		storage-pool-name	New name of the storage pool.
storage-pool		string	The cluster-wide unique name of the storage pool.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **aggregate-autogrow-info**

[top]

Information of aggregates that will auto-grow

Name	Range	Type	Description
aggregate-names		aggr-name[] optional	The name of the aggregates that would auto-grow. Attributes: non-creatable, modifiable
aggregate-new-sizes		size[] optional	The new size of the aggregates in bytes after adding the disks to storage pool. Attributes: non-creatable, modifiable
aggregate-sizes		size[] optional	The current size of the aggregates in bytes. Attributes: non-creatable, modifiable

Element definition: **disk-name**

[top]

Disk path name

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **storage-pool-aggregate-info** [top]

Storage Pool Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	Name of aggregate which has provisioned capacity from the storage pool. Attributes: key, non-creatable, non-modifiable
allocated-unit-count	**[0..2^32-1]**	integer optional	Number of Allocation Units assigned to the Aggregate. Attributes: non-creatable, non-modifiable
node		node-name optional	Node which is hosting the provisioned aggregate. Attributes: non-creatable, non-modifiable
original-owner		string optional	Node which is original owner of the provisioned Aggregate. Attributes: non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable
used-capacity		size optional	Capacity provisioned by aggregate from storage pool. Attributes: non-creatable, non-modifiable

Element definition: **storage-pool-available-capacity-info** [top]

Storage Pool Available Capacity Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allocation-unit-count	**[0..2^32-1]**	integer optional	The total number of units which can be allocated as spare capacity for aggregates. Size of these units are defined by field 'allocation-unit-size' Attributes: non-creatable, non-modifiable
allocation-unit-size		size optional	Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable
available-size		size optional	The total available capacity in bytes available on a given node in the storage pool. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node which has available capacity. Attributes: key, non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable
storage-type		string optional	The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values: • "ssd" - Solid-State Disk
syncmirror-pool		string optional	The name of the SyncMirror pool. Attributes: non-creatable, non-modifiable

Element definition: **storage-pool-disk-info**

[top]

Information of disk in Storage Pool When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
disk		disk-name optional	Name of the disk Attributes: key, non-creatable, non-modifiable
disk-total-size		size optional	Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable
disk-type		string	Disk interface type Attributes: non-creatable, non-modifiable Possible values: • "ata" - Advanced Technology Attachment, • "bsas" - Bridged Serial Attached SCSI (bridged from SATA), • "fcal" - Fibre Channel Arbitrated Loop, • "fsas" - High-Capacity (Fat) Serial Attached SCSI, • "lun" - SCSI Logical Unit Number (e.g. Array), • "sas" - Serial Attached SCSI, • "msata" - Multiple bridged SATA disks in a single carrier, • "ssd" - Solid-State Disk,

		optional	• "vmdisk" - Hypervisor Virtual Disk, • "unknown" - unknown, • "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk, • "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk, • "ssd_cap" - High Capacity Solid-State Disk, • "vmlun" - Hypervisor Virtual LUN, • "vmlun_ssd" - Hypervisor Virtual SSD LUN, • "ssd_zns" - Zoned Namespaces Solid-State Disk
disk-usable-size		size optional	Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable

Element definition: **storage-pool-info**

[top]

Storage Pool Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allocation-unit-data-size-raid-dp		size optional	Data size that will be available after allocation unit is used for RAID-DP group. Attributes: non-creatable, non-modifiable
allocation-unit-data-size-raid-tec		size optional	Data size that will be available after allocation unit is used for RAID-TEC group. Attributes: non-creatable, non-modifiable
allocation-unit-data-size-raid4		size optional	Data size that will be available after allocation unit is used for RAID4 or RAID-EP group. Attributes: non-creatable, non-modifiable
allocation-unit-size		size optional	Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable
current-operation-job-id	**[0..2^64-1]**	integer optional	Job ID of the currently running operation on the storage pool. Attributes: non-creatable, non-modifiable
disk-count	**[0..2^32-1]**	integer optional	The number of disks that are part of the storage pool. Attributes: optional-for-create, non-modifiable
is-healthy		boolean optional	If \"true\", provisioning is allowed from the storage pool. Attributes: non-creatable, non-modifiable
nodes		node-name[] optional	The list of nodes in which the storage pool resides. Attributes: optional-for-create, non-modifiable
pool-state		storagepoolstate	State of the storage pool. Attributes: non-creatable, non-modifiable Possible values: • "normal" , • "degraded" ,

		optional	"creating" , • "deleting" , • "reassigning" , • "growing"
pool-total-size		size optional	The total size in bytes of the storage pool. Attributes: non-creatable, non-modifiable
pool-usable-size		size optional	The amount of usable size in bytes in the storage pool. Attributes: non-creatable, non-modifiable
storage-pool		string optional	The cluster-wide unique name of the storage pool. Attributes: key, required-for-create, non-modifiable
storage-type		string optional	The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values: • "ssd" - Solid-State Disk
unhealthy-reason		string optional	Specifies the reason why the storage pool is unhealthy. Attributes: non-creatable, non-modifiable

Element definition: **storage-pool-name** [top]

Name of the storage pool

[none]

Element definition: **aggr-name** [top]

Name of the aggregate

[none]

Element definition: **disk-name** [top]

Disk path name

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **storagepoolstate**

[top]

State of the Storage Pool Possible values:

- "normal" ,
- "degraded" ,
- "creating" ,
- "deleting" ,
- "reassigning" ,
- "growing"

[none]

APIs in Category: **storage-port**

storage-port-disable
storage-port-enable
storage-port-info-get
storage-port-info-get-iter
storage-port-rescan
storage-port-reset
storage-port-reset-device

This set of ZAPIs allows management of storage ports.

storage-port-disable

[top]

Disable a storage port

Input Name	Range	Type	Description
force		boolean	Force
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	
ESTORAGEPORTSTATUSNOTAVAILABLE	
ESTORAGEPORTALREADYOFFLINE	
ESTORAGEPORTDISKCURRENTLYSANITIZING	
ESTORAGEPORTLASTPATHTODISK	
ESTORAGEPORTINUSE	
ESTORAGEPORTNETWORKMODE	

storage-port-enable

[top]

Enable a storage port

Input Name	Range	Type	Description
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

Errno	Description
ESTORAGEPORTSTATUSNOTAVAILABLE	
ESTORAGEPORTNOTOFFLINE	
ESTORAGEPORTNETWORKMODE	

storage-port-info-get

[top]

Get information about a specified storage port.

Input Name	Range	Type	Description
desired-attributes		storage-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The cluster node where the storage port is located.
port		string	The name of the port. Example: '0a', '1b', etc.

Output Name	Range	Type	Description
attributes		storage-port-info	The attributes of the storage-port.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-port-info-get-iter

[top]

Get information about one or more storage ports.

Input Name	Range	Type	Description
desired-attributes		storage-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-port object. All storage-port objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		storage-	

attributes-list		port-info[] optional	The list of attributes of storage-port objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-port objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-port-rescan

[top]

Rescan a storage port

Input Name	Range	Type	Description
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

storage-port-reset

[top]

Reset a storage port

Input Name	Range	Type	Description
node		node-name	Node
port		string	Port

Errno	Description
ESTORAGEPORTOPFAILED	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

storage-port-reset-device

[top]

Reset a device behind a storage port

Input Name	Range	Type	Description
bay-id		integer	Bay ID

		optional	
loop-id		integer optional	Loop ID
node		node-name	Node
port		string	Port
shelf-name		string optional	Shelf Name

Errno	Description
ESTORAGEPORTDEVOPFAILED	
ESTORAGEPORTDEVINVALID	
ESTORAGEPORTINVALID	
ESTORAGEPORTOPNOTALLOWED	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **storage-port-info**

[top]

Storage port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
board-name		string optional	The board name of the adapter. Attributes: non-creatable, non-modifiable
cable-end-id		shelf-cable-end optional	The cable end identifier (end_0/end_1). Attributes: non-creatable, non-modifiable Possible values: • "end_0" - end 0, • "end_1" - end 1
cable-identifier		string optional	The cable identifier. Attributes: non-creatable, non-modifiable
cable-length		string optional	The cable length in meters. Attributes: non-creatable, non-modifiable
connection-		storage-port-connection-	The connection mode of the port (loop/point-to-point). Attributes: non-creatable, non-modifiable Possible values:

mode		mode optional	"unknown" - The port connection mode is unknown, • "loop" - Loop, • "point_to_point" - Point-to-point
connector-capabilities-array		connector-capabilities-info[] optional	Connector Capabilities information.
connector-part-number		string optional	The connector part number. Attributes: non-creatable, non-modifiable
connector-serial-number		string optional	The connector serial number. Attributes: non-creatable, non-modifiable
connector-technology		sas-connector-technology optional	The connector technology (passive-copper/active-copper/optical). Attributes: non-creatable, non-modifiable Possible values: • "active_copper" - Active Copper, • "passive_copper" - Passive Copper, • "optical" - Optical
connector-type		connector-type optional	The connector type (qsfp/qsfp-plus/mini-sas-hd/sfp). Attributes: non-creatable, non-modifiable Possible values: • "qsfp" - QSFP, • "qsfp_plus" - QSFP+, • "mini_sas_hd" - Mini-SAS HD, • "sfp" - SFP, • "qsfp28" - QSFP28
connector-vendor		string optional	The connector vendor. Attributes: non-creatable, non-modifiable
corrective-action		string optional	The corrective action to perform, in case of a port error. Attributes: non-creatable, non-modifiable
date-code		string optional	The date code of the adapter. Attributes: non-creatable, non-modifiable
description		string optional	A detailed description of the port. Attributes: non-creatable, non-modifiable
device-type		string optional	The device type. Attributes: non-creatable, non-modifiable
error-severity		storage-shelf-error-severity optional	The severity of the port error, in case of a port error. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The error severity is unknown, • "notice" - A normal-priority message, does not indicate a fault, • "warning" - A high-priority warning message, does not indicate a fault, • "error" - A fault condition which is not immediately fatal but requires immediate attention, • "critical" - A critical fault condition, typically disruptive
error-text		string optional	The error text of the port error, in case of a port error. Attributes: non-creatable, non-modifiable
		storage-port-	The error type of the port error, in case of a port error. Example: 'online-degraded'. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The port status is unknown,

error-type		status optional	• "online" - The port is online, • "online_degraded" - The port is online, but in a degraded state, • "offline" - The port is offline, • "link_down" - The link connected to the port is down
firmware-rev		string optional	The firmware revision running on the adapter. Attributes: non-creatable, non-modifiable
is-dedicated		boolean optional	Is Dedicated Storage Port? Attributes: non-creatable, non-modifiable
mac-address		string optional	The MAC address of the RDMA port. Attributes: non-creatable, non-modifiable
mfg-part-number		string optional	The manufacturer part number of the adapter. Attributes: non-creatable, non-modifiable
mode		storage-port-mode optional	The mode of the port (storage/network). Attributes: non-creatable, modifiable Possible values: • "storage" , • "network"
node		node-name optional	The cluster node where the storage port is located. Attributes: key, non-creatable, non-modifiable
nvdata-rev		string optional	The NVDATA revision running on the adapter. Attributes: non-creatable, non-modifiable
part-number		string optional	The part number of the adapter. Attributes: non-creatable, non-modifiable
phys		phy-info[] optional	Returns SAS port phy information.
port		string optional	The name of the port. Example: '0a', '1b', etc. Attributes: key, non-creatable, non-modifiable
port-speed		storage-port-speed optional	The link speed of the port in Gb/s. Attributes: non-creatable, non-modifiable Possible values: • "0" - 0 Gb/s, • "1" - 1 Gb/s, • "1_5" - 1.5 Gb/s, • "2" - 2 Gb/s, • "3" - 3 Gb/s, • "4" - 4 Gb/s, • "6" - 6 Gb/s, • "8" - 8 Gb/s, • "10" - 10 Gb/s, • "12" - 12 Gb/s, • "16" - 16 Gb/s, • "32" - 32 Gb/s, • "2_5" - 2.5 Gb/s, • "5" - 5 Gb/s, • "14" - 14 Gb/s, • "25" - 25 Gb/s, • "40" - 40 Gb/s, • "100" - 100 Gb/s
port-type		storage-port-type optional	The type of the port (SAS/FC) Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The port type is unknown, • "sas" - SAS, • "fc" - FC, • "enet" - ENET

serial-number		string optional	The serial number of the adapter. Attributes: non-creatable, non-modifiable
state		storage-port-state optional	The configured state of the port (enabled/disabled). Attributes: non-creatable, non-modifiable Possible values: • "enabled" , • "disabled" , • "enable_pending" , • "disable_pending"
status		storage-port-status optional	The operational status of the port (online/online-degraded/offline/link-down). Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The port status is unknown, • "online" - The port is online, • "online_degraded" - The port is online, but in a degraded state, • "offline" - The port is offline, • "link_down" - The link connected to the port is down
vlan-id	**[30..31]**	integer optional	VLAN ID Attributes: non-creatable, non-modifiable
wwn		string optional	The World Wide Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable
wwnn		string optional	The World Wide Node Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable
wwpn		string optional	The World Wide Port Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable

Element definition: **connector-capabilities-info**

[top]

Connector Capabilities information.

Name	Range	Type	Description
connector-capabilities	**[0..2^32-1]**	integer optional	The connector capabilities in Gb/s. Attributes: non-creatable, non-modifiable

Element definition: **connector-type**

[top]

QSFP|QSFP+|QSFP28|Mini-SAS HD|SFP Possible values:

- "qsfp" - QSFP,
- "qsfp_plus" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "sfp" - SFP,
- "qsfp28" - QSFP28

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **phy-info**

[top]

Returns SAS port phy information.

Name	Range	Type	Description
phy-id	**[0..2^32-1]**	integer optional	The ID of the phy (0-3). Attributes: non-creatable, non-modifiable
phy-speed		storage-port-speed optional	The link speed of the phy in Gb/s. Attributes: non-creatable, non-modifiable Possible values: • "0" - 0 Gb/s, • "1" - 1 Gb/s, • "1_5" - 1.5 Gb/s, • "2" - 2 Gb/s, • "3" - 3 Gb/s, • "4" - 4 Gb/s, • "6" - 6 Gb/s, • "8" - 8 Gb/s, • "10" - 10 Gb/s, • "12" - 12 Gb/s, • "16" - 16 Gb/s, • "32" - 32 Gb/s, • "2_5" - 2.5 Gb/s, • "5" - 5 Gb/s, • "14" - 14 Gb/s, • "25" - 25 Gb/s, • "40" - 40 Gb/s, • "100" - 100 Gb/s
phy-state		enable optional	The state of the phy (enabled/disabled). Attributes: non-creatable, non-modifiable
phy-status		storage-port-phy-status optional	The operational status of the phy (unknown/online/offline/speed-negotiation-failed/sata-oob-failed). Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The phy status is unknown, • "online" - The phy is online, • "offline" - The phy is offline, • "speed_negotiation_failed" - The speed negotiation on this phy failed, • "sata_oob_failed" - The SATA OOB on this port failed

Element definition: **sas-connector-technology** [top]

active-copper|passive-copper|optical Possible values:

- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[none]

Element definition: **shelf-cable-end** [top]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[none]

Element definition: **storage-port-connection-mode** [top]

Unknown|Loop|Point-to-point Possible values:

- "unknown" - The port connection mode is unknown,
- "loop" - Loop,
- "point_to_point" - Point-to-point

[none]

Element definition: **storage-port-mode** [top]

storage|network Possible values:

- "storage" ,
- "network"

[none]

Element definition: **storage-port-speed** [top]

0|1|1.5|2|2.5|3|4|5|6|8|10|12|14|16|25|32|40|100 Possible values:

- "0" - 0 Gb/s,
- "1" - 1 Gb/s,
- "1_5" - 1.5 Gb/s,
- "2" - 2 Gb/s,
- "3" - 3 Gb/s,
- "4" - 4 Gb/s,
- "6" - 6 Gb/s,
- "8" - 8 Gb/s,
- "10" - 10 Gb/s,
- "12" - 12 Gb/s,
- "16" - 16 Gb/s,
- "32" - 32 Gb/s,
- "2_5" - 2.5 Gb/s,
- "5" - 5 Gb/s,
- "14" - 14 Gb/s,
- "25" - 25 Gb/s,
- "40" - 40 Gb/s,
- "100" - 100 Gb/s

[none]

Element definition: **storage-port-state**

[top]

enabled|disabled|enable-pending|disable-pending Possible values:

- "enabled" ,
- "disabled" ,
- "enable_pending" ,
- "disable_pending"

[none]

Element definition: **storage-port-status**

[top]

unknown|online|online-degraded|offline|link-down Possible values:

- "unknown" - The port status is unknown,
- "online" - The port is online,
- "online_degraded" - The port is online, but in a degraded state,
- "offline" - The port is offline,
- "link_down" - The link connected to the port is down

[none]

Element definition: **storage-port-type**

[top]

Unknown|SAS|FC|ENET Possible values:

- "unknown" - The port type is unknown,
- "sas" - SAS,
- "fc" - FC,
- "enet" - ENET

[none]

Element definition: **storage-shelf-error-severity**

[top]

unknown|notice|warning|error|critical Possible values:

- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[none]

Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

Element definition: **storage-port-phy-status**

[top]

unknown|online|offline|speed-negotiation-failed|sata-oob-failed Possible values:

- "unknown" - The phy status is unknown,
- "online" - The phy is online,
- "offline" - The phy is offline,
- "speed_negotiation_failed" - The speed negotiation on this phy failed,
- "sata_oob_failed" - The SATA OOB on this port failed

[none]

APIs in Category: **storage-shelf**

storage-shelf-acp-configure
storage-shelf-acp-firmware-update
storage-shelf-acp-get
storage-shelf-acp-get-iter
storage-shelf-acp-module-get
storage-shelf-acp-module-get-iter
storage-shelf-drawer-get
storage-shelf-drawer-get-iter
storage-shelf-drawer-phy-get
storage-shelf-drawer-phy-get-iter
storage-shelf-drawer-slot-get
storage-shelf-drawer-slot-get-iter
storage-shelf-firmware-update
storage-shelf-firmware-update-end
storage-shelf-firmware-update-init-abort
storage-shelf-info-get
storage-shelf-port-get
storage-shelf-port-get-iter
storage-shelf-resilver-init
storage-shelf-resilver-list-results
storage-shelf-resilver-list-results-iter
storage-shelf-set-time

This set of ZAPIs allows management of cluster-wide storage shelves.

storage-shelf-acp-configure

[Back]

Configure connection.

Input Name	Range	Type	Description
channel		storage-shelf-acp-channel	The channel to which the connection needs to be configured (in-band/out-of-band). Possible values: • "out_of_band" - The connection type is out-of-band, • "in_band" - The connection type is in-band.
is-enabled		bool	The state to which the connection needs to be configured (true/false).
netmask		ip-address	The netmask that the configuration will use to setup connection (type: IPv4).
subnet		ip-address	The subnet that the configuration will use to setup connection (type: IPv4).

Errno	Description
ESTORAGEACPBUILDCKWRENCHPORT	
ESTORAGEINVALIDENUMBER	
ESTORAGEINVALIDIDENTIFIER	
ESTORAGEACPCONFIGCONFLICTERROR	
ESTORAGEACPPSHOPSATENPROCERRR	
STORAGEACPACPPBBOOTING	
STORAGEACPBUILPOWERDOPF	
STORAGEACPCHANNELUNSPECIFIED	

storage-shelf-acp-firmware-update

[Back]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

Input Name	Range	Type	Description
module-name		string	The module name. Example: 1.10.A
node-name		node-name	The node that has alternate control path configured

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-acp-get

[Back]

Return the connectivity of the node. A return status of Full-Connectivity means, that the connection is properly configured and fully working. Any other status means that an error is seen.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-acp-connection	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node that has alternate control path configured.

Output Name	Range	Type	Description
attributes		storage-shelf-acp-connection	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-acp-module-get

[Back]

return the first module

Input Name	Range	Type	Description
desired-attributes		storage-shelf-acp-module	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	The node that has alternate control path configured

Output Name	Range	Type	Description
attributes		storage-shelf-acp-module	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-acp-module-get-iter

[Back]

return the module list

Input Name	Range	Type	Description
desired-attributes		storage-shelf-acp-module	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-acp-module	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-acp-module	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-drawer-get

[Back]

Get drawer information about a specified storage shelf drawer.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
drawer	[0..2^32-1]	integer	Drawer Number
shelf		string	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-drawer-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-drawer-get-iter

[Back]

Get drawer information about one or more storage shelf drawers.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-drawer-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-drawer-info	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-drawer-phy-get

[Back]

Get phy information about a specified storage shelf drawer phy.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-phy-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
drawer	[0..2^32-1]	integer	Drawer Number
phy	[0..2^32-1]	integer	PHY Number
shelf		string	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-drawer-phy-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-drawer-phy-get-iter

[Back]

Get phy information about one or more storage shelf drawer phys.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-phy-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-drawer-phy-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-drawer-phy-info	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-drawer-slot-get

[Back]

Get a map between bay number and drawer/slot number.

Input Name	Range	Type	Description
bay	[0..2^32-1]	integer	Bay Number
desired-attributes		storage-shelf-drawer-slot-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
shelf		string	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-drawer-slot-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-drawer-slot-get-iter

[Back]

Get a map between bay number and drawer/slot number.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-drawer-slot-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer	The maximum number of records to return in this call. Default: 20
query		storage-shelf-drawer-slot-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-drawer-slot-info	The list of attributes of storage-shelf objects.
next-tag		string	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-firmware-update

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

Input Name	Range	Type	Description
module-type		shelf-module-type[] optional	All the shelves in the cluster with this module type will be updated. Possible values: • "ot_fpr" - ATTPCIE Module Type, • "ioms" - IOM3 Module Type, • "iom3" - IOM3 Module Type, • "iom6" - IOM6 Module Type, • "iom6e" - IOM6E Module Type, • "psm12" - PSM12 Module Type, • "iom12" - IOM12 Module Type, • "iom12f" - IOM12F Module Type, • "iom12f2f" - NSM100 Module Type, • "iom12f2e" - NSM100B Module Type, • "iom9e" - NSM60 Module Type, • "iom12g" - IOM12G Module Type, • "iom12fe" - NSM106 Module Type
shelf	string optional	Shelf Name of the shelf that needs to be updated.	

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-firmware-update-info-get

Storage shelf firmware update status record.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-firmware-update-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node

Output Name	Range	Type	Description
attributes		storage-shelf-firmware-update-info	The attributes of the storage-shelf-firmware-update.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-firmware-update-info-get-iter

Storage shelf firmware update status records.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-firmware-update-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-firmware-update-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware-update object. All storage-shelf-firmware-update objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-firmware-update-info[] optional	The list of attributes of storage-shelf-firmware-update objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf-firmware-update objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-info-get

Get shelf information about a specified storage shelf.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
shelf		string optional	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-info-get-iter

Get shelf information about one or more storage shelves.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-info[] optional	The list of attributes of storage-shelf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

storage-shelf-location-led-get

Get the Location LED status of a shelf

Input Name	Range	Type	Description
desired-attributes		storage-shelf-location-led-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
shelf-name		string optional	Shelf Name

Output Name	Range	Type	Description
attributes		storage-shelf-location-led-info	The attributes of the storage-shelf.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-shelf-location-led-get-iter

Get the Location LED status of one or more shelves

Input Name	Range	Type	Description
desired-attributes		storage-shelf-location-led-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-location-led-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-location-led-info[] optional	The list of attributes of storage-shelf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

storage-shelf-location-led-modify

Modify the state of the Location LED

Input Name	Range	Type	Description
led-status		storage-shelf-led-status optional	Location LED Possible values: • "off", • "on", • "unsupported"
shelf-name		string optional	Shelf Name

Errno	Description
EOBJECTNOTFOUND	
EINVALIDINPUTERROR	
EINTERNALERROR	

storage-shelf-location-led-modify-iter

Modify the state of the Location LED of one or more shelves

Input Name	Range	Type	Description
attributes		storage-shelf-location-led-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple storage-shelf objects match a given query. If set to true, the API will continue modifying the next matching storage-shelf even when modification of a previous storage-shelf fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	[1..2^32-1]	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching storage-shelf even when the modification of a previous matching storage-shelf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	[1..2^32-1]	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		storage-shelf-location-led-info	If modifying a specific storage-shelf, this input element must specify all keys. If modifying storage-shelf objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of storage-shelf objects (just keys) that were not modified due to some error. If set to false, the list of storage-shelf objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of storage-shelf objects (just keys) that were successfully updated. If set to false, the list of storage-shelf objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		storage-shelf-location-led-modify-iter-info[] optional	Information about storage-shelf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching storage-shelf objects to be modified.
num-failed	[0..2^32-1]	integer optional	Number of storage-shelf objects that matched the query, but were not modified due to some error.
num-succeeded	[0..2^32-1]	integer optional	The number of storage-shelf objects that matched the query and were successfully updated.
success-list		storage-shelf-location-led-modify-iter-info[] optional	The storage-shelf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

storage-shelf-port-get-iter

Get information about one or more storage shelf ports.

Input Name	Range	Type	Description
desired-attributes		storage-shelf-port-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-port-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-port-info[] optional	The list of attributes of storage-shelf objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **channel-config-enum**

out-of-band/in-band Possible values:

- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[name]

Element definition: **filer-id**

Filer UUID

[name]

Element definition: **ip-address**

IPv4 and IPv6 address

[name]

Element definition: **node-name**

Query

The node's name

[none]

Element definition: **shelf-module-type**

Query

all|ns3-em8-f|ns3|ns4|ns4ardwr|ns4-k22|ns4-k24|ns4-k26|ns4-k28|ns4-k30|ns4-k32|ns4-k34|ns4-k36|ns4-k38|ns4-k40|ns4-k42|ns4-k44|ns4-k46|ns4-k48|ns4-k50|ns4-k52|ns4-k54|ns4-k56|ns4-k58|ns4-k60|ns4-k62|ns4-k64|ns4-k66|ns4-k68|ns4-k70|ns4-k72|ns4-k74|ns4-k76|ns4-k78|ns4-k80|ns4-k82|ns4-k84|ns4-k86|ns4-k88|ns4-k90|ns4-k92|ns4-k94|ns4-k96|ns4-k98|ns4-k100|ns4-k102|ns4-k104|ns4-k106|ns4-k108|ns4-k110|ns4-k112|ns4-k114|ns4-k116|ns4-k118|ns4-k120|ns4-k122|ns4-k124|ns4-k126|ns4-k128|ns4-k130|ns4-k132|ns4-k134|ns4-k136|ns4-k138|ns4-k140|ns4-k142|ns4-k144|ns4-k146|ns4-k148|ns4-k150|ns4-k152|ns4-k154|ns4-k156|ns4-k158|ns4-k160|ns4-k162|ns4-k164|ns4-k166|ns4-k168|ns4-k170|ns4-k172|ns4-k174|ns4-k176|ns4-k178|ns4-k180|ns4-k182|ns4-k184|ns4-k186|ns4-k188|ns4-k190|ns4-k192|ns4-k194|ns4-k196|ns4-k198|ns4-k200|ns4-k202|ns4-k204|ns4-k206|ns4-k208|ns4-k210|ns4-k212|ns4-k214|ns4-k216|ns4-k218|ns4-k220|ns4-k222|ns4-k224|ns4-k226|ns4-k228|ns4-k230|ns4-k232|ns4-k234|ns4-k236|ns4-k238|ns4-k240|ns4-k242|ns4-k244|ns4-k246|ns4-k248|ns4-k250|ns4-k252|ns4-k254|ns4-k256|ns4-k258|ns4-k260|ns4-k262|ns4-k264|ns4-k266|ns4-k268|ns4-k270|ns4-k272|ns4-k274|ns4-k276|ns4-k278|ns4-k280|ns4-k282|ns4-k284|ns4-k286|ns4-k288|ns4-k290|ns4-k292|ns4-k294|ns4-k296|ns4-k298|ns4-k300|ns4-k302|ns4-k304|ns4-k306|ns4-k308|ns4-k310|ns4-k312|ns4-k314|ns4-k316|ns4-k318|ns4-k320|ns4-k322|ns4-k324|ns4-k326|ns4-k328|ns4-k330|ns4-k332|ns4-k334|ns4-k336|ns4-k338|ns4-k340|ns4-k342|ns4-k344|ns4-k346|ns4-k348|ns4-k350|ns4-k352|ns4-k354|ns4-k356|ns4-k358|ns4-k360|ns4-k362|ns4-k364|ns4-k366|ns4-k368|ns4-k370|ns4-k372|ns4-k374|ns4-k376|ns4-k378|ns4-k380|ns4-k382|ns4-k384|ns4-k386|ns4-k388|ns4-k390|ns4-k392|ns4-k394|ns4-k396|ns4-k398|ns4-k400|ns4-k402|ns4-k404|ns4-k406|ns4-k408|ns4-k410|ns4-k412|ns4-k414|ns4-k416|ns4-k418|ns4-k420|ns4-k422|ns4-k424|ns4-k426|ns4-k428|ns4-k430|ns4-k432|ns4-k434|ns4-k436|ns4-k438|ns4-k440|ns4-k442|ns4-k444|ns4-k446|ns4-k448|ns4-k450|ns4-k452|ns4-k454|ns4-k456|ns4-k458|ns4-k460|ns4-k462|ns4-k464|ns4-k466|ns4-k468|ns4-k470|ns4-k472|ns4-k474|ns4-k476|ns4-k478|ns4-k480|ns4-k482|ns4-k484|ns4-k486|ns4-k488|ns4-k490|ns4-k492|ns4-k494|ns4-k496|ns4-k498|ns4-k500|ns4-k502|ns4-k504|ns4-k506|ns4-k508|ns4-k510|ns4-k512|ns4-k514|ns4-k516|ns4-k518|ns4-k520|ns4-k522|ns4-k524|ns4-k526|ns4-k528|ns4-k530|ns4-k532|ns4-k534|ns4-k536|ns4-k538|ns4-k540|ns4-k542|ns4-k544|ns4-k546|ns4-k548|ns4-k550|ns4-k552|ns4-k554|ns4-k556|ns4-k558|ns4-k560|ns4-k562|ns4-k564|ns4-k566|ns4-k568|ns4-k570|ns4-k572|ns4-k574|ns4-k576|ns4-k578|ns4-k580|ns4-k582|ns4-k584|ns4-k586|ns4-k588|ns4-k590|ns4-k592|ns4-k594|ns4-k596|ns4-k598|ns4-k600|ns4-k602|ns4-k604|ns4-k606|ns4-k608|ns4-k610|ns4-k612|ns4-k614|ns4-k616|ns4-k618|ns4-k620|ns4-k622|ns4-k624|ns4-k626|ns4-k628|ns4-k630|ns4-k632|ns4-k634|ns4-k636|ns4-k638|ns4-k640|ns4-k642|ns4-k644|ns4-k646|ns4-k648|ns4-k650|ns4-k652|ns4-k654|ns4-k656|ns4-k658|ns4-k660|ns4-k662|ns4-k664|ns4-k666|ns4-k668|ns4-k670|ns4-k672|ns4-k674|ns4-k676|ns4-k678|ns4-k680|ns4-k682|ns4-k684|ns4-k686|ns4-k688|ns4-k690|ns4-k692|ns4-k694|ns4-k696|ns4-k698|ns4-k700|ns4-k702|ns4-k704|ns4-k706|ns4-k708|ns4-k710|ns4-k712|ns4-k714|ns4-k716|ns4-k718|ns4-k720|ns4-k722|ns4-k724|ns4-k726|ns4-k728|ns4-k730|ns4-k732|ns4-k734|ns4-k736|ns4-k738|ns4-k740|ns4-k742|ns4-k744|ns4-k746|ns4-k748|ns4-k750|ns4-k752|ns4-k754|ns4-k756|ns4-k758|ns4-k760|ns4-k762|ns4-k764|ns4-k766|ns4-k768|ns4-k770|ns4-k772|ns4-k774|ns4-k776|ns4-k778|ns4-k780|ns4-k782|ns4-k784|ns4-k786|ns4-k788|ns4-k790|ns4-k792|ns4-k794|ns4-k796|ns4-k798|ns4-k800|ns4-k802|ns4-k804|ns4-k806|ns4-k808|ns4-k810|ns4-k812|ns4-k814|ns4-k816|ns4-k818|ns4-k820|ns4-k822|ns4-k824|ns4-k826|ns4-k828|ns4-k830|ns4-k832|ns4-k834|ns4-k836|ns4-k838|ns4-k840|ns4-k842|ns4-k844|ns4-k846|ns4-k848|ns4-k850|ns4-k852|ns4-k854|ns4-k856|ns4-k858|ns4-k860|ns4-k862|ns4-k864|ns4-k866|ns4-k868|ns4-k870|ns4-k872|ns4-k874|ns4-k876|ns4-k878|ns4-k880|ns4-k882|ns4-k884|ns4-k886|ns4-k888|ns4-k890|ns4-k892|ns4-k894|ns4-k896|ns4-k898|ns4-k900|ns4-k902|ns4-k904|ns4-k906|ns4-k908|ns4-k910|ns4-k912|ns4-k914|ns4-k916|ns4-k918|ns4-k920|ns4-k922|ns4-k924|ns4-k926|ns4-k928|ns4-k930|ns4-k932|ns4-k934|ns4-k936|ns4-k938|ns4-k940|ns4-k942|ns4-k944|ns4-k946|ns4-k948|ns4-k950|ns4-k952|ns4-k954|ns4-k956|ns4-k958|ns4-k960|ns4-k962|ns4-k964|ns4-k966|ns4-k968|ns4-k970|ns4-k972|ns4-k974|ns4-k976|ns4-k978|ns4-k980|ns4-k982|ns4-k984|ns4-k986|ns4-k988|ns4-k990|ns4-k992|ns4-k994|ns4-k996|ns4-k998|ns4-k1000|ns4-k1002|ns4-k1004|ns4-k1006|ns4-k1008|ns4-k1010|ns4-k1012|ns4-k1014|ns4-k1016|ns4-k1018|ns4-k1020|ns4-k1022|ns4-k1024|ns4-k1026|ns4-k1028|ns4-k1030|ns4-k1032|ns4-k1034|ns4-k1036|ns4-k1038|ns4-k1040|ns4-k1042|ns4-k1044|ns4-k1046|ns4-k1048|ns4-k1050|ns4-k1052|ns4-k1054|ns4-k1056|ns4-k1058|ns4-k1060|ns4-k1062|ns4-k1064|ns4-k1066|ns4-k1068|ns4-k1070|ns4-k1072|ns4-k1074|ns4-k1076|ns4-k1078|ns4-k1080|ns4-k1082|ns4-k1084|ns4-k1086|ns4-k1088|ns4-k1090|ns4-k1092|ns4-k1094|ns4-k1096|ns4-k1098|ns4-k1100|ns4-k1102|ns4-k1104|ns4-k1106|ns4-k1108|ns4-k1110|ns4-k1112|ns4-k1114|ns4-k1116|ns4-k1118|ns4-k1120|ns4-k1122|ns4-k1124|ns4-k1126|ns4-k1128|ns4-k1130|ns4-k1132|ns4-k1134|ns4-k1136|ns4-k1138|ns4-k1140|ns4-k1142|ns4-k1144|ns4-k1146|ns4-k1148|ns4-k1150|ns4-k1152|ns4-k1154|ns4-k1156|ns4-k1158|ns4-k1160|ns4-k1162|ns4-k1164|ns4-k1166|ns4-k1168|ns4-k1170|ns4-k1172|ns4-k1174|ns4-k1176|ns4-k1178|ns4-k1180|ns4-k1182|ns4-k1184|ns4-k1186|ns4-k1188|ns4-k1190|ns4-k1192|ns4-k1194|ns4-k1196|ns4-k1198|ns4-k1200|ns4-k1202|ns4-k1204|ns4-k1206|ns4-k1208|ns4-k1210|ns4-k1212|ns4-k1214|ns4-k1216|ns4-k1218|ns4-k1220|ns4-k1222|ns4-k1224|ns4-k1226|ns4-k1228|ns4-k1230|ns4-k1232|ns4-k1234|ns4-k1236|ns4-k1238|ns4-k1240|ns4-k1242|ns4-k1244|ns4-k1246|ns4-k1248|ns4-k1250|ns4-k1252|ns4-k1254|ns4-k1256|ns4-k1258|ns4-k1260|ns4-k1262|ns4-k1264|ns4-k1266|ns4-k1268|ns4-k1270|ns4-k1272|ns4-k1274|ns4-k1276|ns4-k1278|ns4-k1280|ns4-k1282|ns4-k1284|ns4-k1286|ns4-k1288|ns4-k1290|ns4-k1292|ns4-k1294|ns4-k1296|ns4-k1298|ns4-k1300|ns4-k1302|ns4-k1304|ns4-k1306|ns4-k1308|ns4-k1310|ns4-k1312|ns4-k1314|ns4-k1316|ns4-k1318|ns4-k1320|ns4-k1322|ns4-k1324|ns4-k1326|ns4-k1328|ns4-k1330|ns4-k1332|ns4-k1334|ns4-k1336|ns4-k1338|ns4-k1340|ns4-k1342|ns4-k1344|ns4-k1346|ns4-k1348|ns4-k1350|ns4-k1352|ns4-k1354|ns4-k1356|ns4-k1358|ns4-k1360|ns4-k1362|ns4-k1364|ns4-k1366|ns4-k1368|ns4-k1370|ns4-k1372|ns4-k1374|ns4-k1376|ns4-k1378|ns4-k1380|ns4-k1382|ns4-k1384|ns4-k1386|ns4-k1388|ns4-k1390|ns4-k1392|ns4-k1394|ns4-k1396|ns4-k1398|ns4-k1400|ns4-k1402|ns4-k1404|ns4-k1406|ns4-k1408|ns4-k1410|ns4-k1412|ns4-k1414|ns4-k1416|ns4-k1418|ns4-k1420|ns4-k1422|ns4-k1424|ns4-k1426|ns4-k1428|ns4-k1430|ns4-k1432|ns4-k1434|ns4-k1436|ns4-k1438|ns4-k1440|ns4-k1442|ns4-k1444|ns4-k1446|ns4-k1448|ns4-k1450|ns4-k1452|ns4-k1454|ns4-k1456|ns4-k1458|ns4-k1460|ns4-k1462|ns4-k1464|ns4-k1466|ns4-k1468|ns4-k1470|ns4-k1472|ns4-k1474|ns4-k1476|ns4-k1478|ns4-k1480|ns4-k1482|ns4-k1484|ns4-k1486|ns4-k1488|ns4-k1490|ns4-k1492|ns4-k1494|ns4-k1496|ns4-k1498|ns4-k1500|ns4-k1502|ns4-k1504|ns4-k1506|ns4-k1508|ns4-k1510|ns4-k1512|ns4-k1514|ns4-k1516|ns4-k1518|ns4-k1520|ns4-k1522|ns4-k1524|ns4-k1526|ns4-k1528|ns4-k1530|ns4-k1532|ns4-k1534|ns4-k1536|ns4-k1538|ns4-k1540|ns4-k1542|ns4-k1544|ns4-k1546|ns4-k1548|ns4-k1550|ns4-k1552|ns4-k1554|ns4-k1556|ns4-k1558|ns4-k1560|ns4-k1562|ns4-k1564|ns4-k1566|ns4-k1568|ns4-k1570|ns4-k1572|ns4-k1574|ns4-k1576|ns4-k1578|ns4-k1580|ns4-k1582|ns4-k1584|ns4-k1586|ns4-k1588|ns4-k1590|ns4-k1592|ns4-k1594|ns4-k1596|ns4-k1598|ns4-k1600|ns4-k1602|ns4-k1604|ns4-k1606|ns4-k1608|ns4-k1610|ns4-k1612|ns4-k1614|ns4-k1616|ns4-k1618|ns4-k1620|ns4-k1622|ns4-k1624|ns4-k1626|ns4-k1628|ns4-k1630|ns4-k1632|ns4-k1634|ns4-k1636|ns4-k1638|ns4-k1640|ns4-k1642|ns4-k1644|ns4-k1646|ns4-k1648|ns4-k1650|ns4-k1652|ns4-k1654|ns4-k1656|ns4-k1658|ns4-k1660|ns4-k1662|ns4-k1664|ns4-k1666|ns4-k1668|ns4-k1670|ns4-k1672|ns4-k1674|ns4-k1676|ns4-k1678|ns4-k1680|ns4-k1682|ns4-k1684|ns4-k1686|ns4-k1688|ns4-k1690|ns4-k1692|ns4-k1694|ns4-k1696|ns4-k1698|ns4-k1700|ns4-k1702|ns4-k1704|ns4-k1706|ns4-k1708|ns4-k1710|ns4-k1712|ns4-k1714|ns4-k1716|ns4-k1718|ns4-k1720|ns4-k1722|ns4-k1724|ns4-k1726|ns4-k1728|ns4-k1730|ns4-k1732|ns4-k1734|ns4-k1736|ns4-k1738|ns4-k1740|ns4-k1742|ns4-k1744|ns4-k1746|ns4-k1748|ns4-k1750|ns4-k1752|ns4-k1754|ns4-k1756|ns4-k1758|ns4-k1760|ns4-k1762|ns4-k1764|ns4-k1766|ns4-k1768|ns4-k1770|ns4-k1772|ns4-k1774|ns4-k1776|ns4-k1778|ns4-k1780|ns4-k1782|ns4-k1784|ns4-k1786|ns4-k1788|ns4-k1790|ns4-k1792|ns4-k1794|ns4-k1796|ns4-k1798|ns4-k1800|ns4-k1802|ns4-k1804|ns4-k1806|ns4-k1808|ns4-k1810|ns4-k1812|ns4-k1814|ns4-k1816|ns4-k1818|ns4-k1820|ns4-k1822|ns4-k1824|ns4-k1826|ns4-k1828|ns4-k1830|ns4-k1832|ns4-k1834|ns4-k1836|ns4-k1838|ns4-k1840|ns4-k1842|ns4-k1844|ns4-k1846|ns4-k1848|ns4-k1850|ns4-k1852|ns4-k1854|ns4-k1856|ns4-k1858|ns4-k1860|ns4-k1862|ns4-k1864|ns4-k1866|ns4-k1868|ns4-k1870|ns4-k1872|ns4-k1874|ns4-k1876|ns4-k1878|ns4-k1880|ns4-k1882|ns4-k1884|ns4-k1886|ns4-k1888|ns4-k1890|ns4-k1892|ns4-k1894|ns4-k1896|ns4-k1898|ns4-k1900|ns4-k1902|ns4-k1904|ns4-k1906|ns4-k1908|ns4-k1910|ns4-k1912|ns4-k1914|ns4-k1916|ns4-k1918|ns4-k1920|ns4-k1922|ns4-k1924|ns4-k1926|ns4-k1928|ns4-k1930|ns4-k1932|ns4-k1934|ns4-k1936|ns4-k1938|ns4-k1940|ns4-k1942|ns4-k1944|ns4-k1946|ns4-k1948|ns4-k1950|ns4-k1952|ns4-k1954|ns4-k1956|ns4-k1958|ns4-k1960|ns4-k1962|ns4-k1964|ns4-k1966|ns4-k1968|ns4-k1970|ns4-k1972|ns4-k1974|ns4-k1976|ns4-k1978|ns4-k1980|ns4-k1982|ns4-k1984|ns4-k1986|ns4-k1988|ns4-k1990|ns4-k1992|ns4-k1994|ns4-k1996|ns4-k1998|ns4-k2000|ns4-k2002|ns4-k2004|ns4-k2006|ns4-k2008|ns4-k2010|ns4-k2012|ns4-k2014|ns4-k2016|ns4-k2018|ns4-k2020|ns4-k2022|ns4-k2024|ns4-k2026|ns4-k2028|ns4-k2030|ns4-k2032|ns4-k2034|ns4-k2036|ns4-k2038|ns4-k2040|ns4-k2042|ns4-k2044|ns4-k2046|ns4-k2048|ns4-k2050|ns4-k2052|ns4-k2054|ns4-k2056|ns4-k2058|ns4-k2060|ns4-k2062|ns4-k2064|ns4-k2066|ns4-k2068|ns4-k2070|ns4-k2072|ns4-k2074|ns4-k2076|ns4-k2078|ns4-k2080|ns4-k2082|ns4-k2084|ns4-k2086|ns4-k2088|ns4-k2090|ns4-k2092|ns4-k2094|ns4-k2096|ns4-k2098|ns4-k2100|ns4-k2102|ns4-k2104|ns4-k2106|ns4-k2108|ns4-k2110|ns4-k2112|ns4-k2114|ns4-k2116|ns4-k2118|ns4-k2120|ns4-k2122|ns4-k2124|ns4-k2126|ns4-k2128|ns4-k2130|ns4-k2132|ns4-k2134|ns4-k2136|ns4-k2138|ns4-k2140|ns4-k2142|ns4-k2144|ns4-k2146|ns4-k2148|ns4-k2150|ns4-k2152|ns4-k2154|ns4-k2156|ns4-k2158|ns4-k2160|ns4-k2162|ns4-k2164|ns4-k2166|ns4-k2168|ns4-k2170|ns4-k2172|ns4-k2174|ns4-k2176|ns4-k2178|ns4-k2180|ns4-k2182|ns4-k2184|ns4-k2186|ns4-k2188|ns4-k2190|ns4-k2192|ns4-k2194|ns4-k2196|ns4-k2198|ns4-k2200|ns4-k2202|ns4-k2204|ns4-k2206|ns4-k2208|ns4-k2210|ns4-k2212|ns4-k2214|ns4-k2216|ns4-k2218|ns4-k2220|ns4-k2222|ns4-k2224|ns4-k2226|ns4-k2228|ns4-k2230|ns4-k2232|ns4-k2234|ns4-k2236|ns4-k2238|ns4-k2240|ns4-k2242|ns4-k2244|ns4-k2246|ns4-k2248|ns4-k2250|ns4-k2252|ns4-k2254|ns4-k2256|ns4-k2258|ns4-k2260|ns4-k2262|ns4-k2264|ns4-k2266|ns4-k2268|ns4-k2270|ns4-k2272|ns4-k2274|ns4-k2276|ns4-k2278|ns4-k2280|ns4-k2282|ns4-k2284|ns4-k2286|ns4-k2288|ns4-k2290|ns4-k2292|ns4-k2294|ns4-k2296|ns4-k2298|ns4-k2300|ns4-k2302|ns4-k2304|ns4-k2306|ns4-k2308|ns4-k2310|ns4-k2312|ns4-k2314|ns4-k2316|ns4-k2318|ns4-k2320|ns4-k2322|ns4-k2324|ns4-k2326|ns4-k2328|ns4-k2330|ns4-k2332|ns4-k2334|ns4-k2336|ns4-k2338|ns4-k2340|ns4-k2342|ns4-k2344|ns4-k2346|ns4-k2348|ns4-k2350|ns4-k2352|ns4-k2354|ns4-k2356|ns4-k2358|ns4-k2360|ns4-k2362|ns4-k2364|ns4-k2366|ns4-k2368|ns4-k2370|ns4-k2372|ns4-k2374|ns4-k2376|ns4-k2378|ns4-k2380|ns4-k2382|ns4-k2384|ns4-k2386|ns4-k2388|ns4-k2390|ns4-k2392|ns4-k2394|ns4-k2396|ns4-k2398|ns4-k2400|ns4-k2402|ns4-k2404|ns4-k2406|ns4-k2408|ns4-k2410|ns4-k2412|ns4-k2414|ns4-k2416|ns4-k2418|ns4-k2420|ns4-k2422|ns4-k2424|ns4-k2426|ns4-k2428|ns4-k2430|ns4-k2432|ns4-k2434|ns4-k2436|ns4-k2438|ns4-k2440|ns4-k2442|ns4-k2444|ns4-k2446|ns4-k2448|ns4-k2450|ns4-k2452|ns4-k2454|ns4-k2456|ns4-k2458|ns4-k2460|ns4-k2462|ns4-k2464|ns4-k2466|ns4-k2468|ns4-k2470|ns4-k2472|ns4-k2474|ns4-k2476|ns4-k2478|ns4-k2480|ns4-k2482|ns4-k2484|ns4-k2486|ns4-k2488|ns4-k2490|ns4-k2492|ns4-k2494|ns4-k2496|ns4-k2498|ns4-k2500|ns4-k2502|ns4-k2504|ns4-k2506|ns4-k2508|ns4-k2510|ns4-k2512|ns4-k2514|ns4-k2516|ns4-k2518|ns4-k2520|ns4-k2522|ns4-k2524|ns4-k2526|ns4-k2528|ns4-k2530|ns4-k2532|ns4-k2534|ns4-k2536|ns4-k2538|ns4-k2540|ns4-k2542|ns4-k2544|ns4-k2546|ns4-k2548|ns4-k2550|ns4-k2552|ns4-k2554|ns4-k2556|ns4-k2558|ns4-k2560|ns4-k2562|ns4-k2564|ns4-k2566|ns4-k2568|ns4-k2570|ns4-k2572|ns4-k2574|ns4-k2576|ns4-k2578|ns4-k2580|ns4-k2582|ns4-k2584|ns4-k2586|ns4-k2588|ns4-k2590|ns4-k2592|ns4-k2594|ns4-k2596|ns4-k2598|ns4-k2600|ns4-k2602|ns4-k2604|ns4-k2606|ns4-k2608|ns4-k2610|ns4-k2612|ns4-k2614|ns4-k2616|ns4-k2618|ns4-k2620|ns4-k2622|ns4-k2624|ns4-k2626|ns4-k2628|ns4-k2630|ns4-k2632|ns4-k2634|ns4-k2636|ns4-k2638|ns4-k2640|ns4-k2642|ns4-k2644|ns4-k2646|ns4-k2648|ns4-k2650|ns4-k2652|ns4-k2654|ns4-k2656|ns4-k2658|ns4-k2660|ns4-k2662|ns4-k2664|ns4-k2666|ns4-k2668|ns4-k2670|ns4-k2672|ns4-k2674|ns4-k2676|ns4-k2678|ns4-k2680|ns4-k2682|ns4-k2684|ns4-k2686|ns4-k2688|ns4-k2690|ns4-k2692|ns4-k2694|ns4-k2696|ns4-k2698|ns4-k2700|ns4-k2702|ns4-k2704|ns4-k2706|ns4-k2708|ns4-k2710|ns4-k2712|ns4-k2714|ns4-k2716|ns4-k2718|ns4-k2720|ns4-k2722|ns4-k2724|ns4-k2726|ns4-k2728|ns4-k2730|ns4-k2732|ns4-k2734|ns4-k2736|ns4-k2738|ns4-k2740|ns4-k2742|ns4-k2744|ns4-k2746|ns4-k2748|ns4-k2750|ns4-k2752|ns4-k2754|ns4-k2756|ns4-k2758|ns4-k2760|ns4-k2762|ns4-k2764|ns4-k2766|ns4-k2768|ns4-k2770|ns4-k2772|ns4-k2774|ns4-k2776|ns4-k2778|ns4-k2780|ns4-k2782|ns4-k2784|ns4-k2786|ns4-k2788|ns4-k2790|ns4-k2792|ns4-k2794|ns4-k2796|ns4-k2798|ns4-k2800|ns4-k2802|ns4-k2804|ns4-k2806|ns4-k2808|ns4-k2810|ns4-k2812|ns4-k2814|ns4-k2816|ns4-k2818|ns4-k2820|ns4-k2822|ns4-k2824|ns4-k2826|ns4-k2828|ns4-k2830|ns4-k2832|ns4-k2834|ns4-k2836|ns4-k2838|ns4-k2840|ns4-k2842|ns4-k2844|ns4-k2846|ns4-k2848|ns4-k2850|ns4-k2852|ns4-k2854|ns4-k2856|ns4-k2858|ns4-k2860|ns4-k2862|ns4-k2864|ns4-k2866|ns4-k2868|ns4-k2870|ns4-k2872|ns4-k2874|ns4-k2876|ns4-k2878|ns4-k2880|ns4-k2882|ns4-k2884|ns4-k2886|ns4-k2888|ns4-k2890|ns4-k2892|ns4-k2894|ns4-k2896|ns4-k2898|ns4-k2900|ns4-k2902|ns4-k2904|ns4-k2906|ns4-k2908|ns4-k2910|ns4-k2912|ns4-k2914|ns4-k2916|ns4-k2918|ns4-k2920|ns4-k2922|ns4-k2924|ns4-k2926|ns4-k2928|ns4-k2930|ns4-k2932|ns4-k2934|ns4-k2936|ns4-k2938|ns4-k2940|ns4-k2942|ns4-k2944|ns4-k2946|ns4-k2948|ns4-k2950|ns4-k2952|ns4-k2954|ns4-k2956|ns4-k2958|ns4-k2960|ns4-k2962|ns4-k2964|ns4-k2966|ns4-k2968|ns4-k2970|ns4-k2972|ns4-k2974|ns4-k2976|ns4-k2978|ns4-k2980|ns4-k2982|ns4-k2984|ns4-k2986|ns4-k2988|ns4-k2990|ns4-k2992|ns4-k2994|ns4-k2996|ns4-k2998|ns4-k3000|ns4-k3002|ns4-k3004|ns4-k3006|ns4-k3008|ns4-k3010|ns4-k3012|ns4-k3014|ns4-k3016|ns4-k3018|ns4-k3020|ns4-k3022|ns4-k3024|ns4-k3026|ns4-k3028|ns4-k3030|ns4-k3032|ns4-k3034|ns4-k3036|ns4-k3038|ns4-k3040|ns4-k3042|ns4-k3044|ns4-k3046|ns4-k3048|ns4-k3050|ns4-k3052|ns4-k3054|ns4-k3056|ns4-k3058|ns4-k3060|ns4-k3062|ns4-k3064|ns4-k3066|ns4-k3068|ns4-k3070|ns4-k3072|ns4-k3074|ns4-k3076|ns4-k3078|ns4-k3080|ns4-k3082|ns4-k3084|ns4-k3086|ns4-k3088|ns4-k3090|ns4-k3092|ns4-k3094|ns4-k3096|ns4-k3098|ns4-k3100|ns4-k3102|ns4-k3104|ns4-k3106|ns4-k3108|ns4-k3110|ns4-k3112|ns4-k3114|ns4-k3116|ns4-k3118|ns4-k3120|ns4-k3122|ns4-k3124|ns4-k3126|ns4-k3128|ns4-k3130|ns4-k3132|ns4-k3134|ns4-k3136|ns4-k3138|ns4-k3140|ns4-k3142|ns4-k3144|ns4-k3146|ns4-k3148|ns4-k3150|ns4-k3152|ns4-k3154|ns4-k3156|ns4-k3158|ns4-k3160|ns4-k3162|ns4-k3164|ns4-k3166|ns4-k3168|ns4-k3170|ns4-k3172|ns4-k3174|ns4-k3176|ns4-k3178|ns4-k3180|ns4-k3182|ns4-k3184|ns4-k3186|ns4-k3188|ns4-k3190|ns4-k3192|ns4-k3194|ns4-k3196|ns4-k3198|ns4-k3200|ns4-k3202|ns4-k3204|ns4-k3206|ns4-k3208|ns4-k3210|ns4-k3212|ns4-k3214|ns4-k3216|ns4-k3218|ns4-k3220|ns4-k3222|ns4-k3224|ns4-k3226|ns4-k3228|ns4-k3230|ns4-k3232|ns4-k3234|ns4-k3236|ns4-k3238|ns4-k3240|ns4-k3242|ns4-k3244|ns4-k3246|ns4-k3248|ns4-k3250|ns4-k3252|ns4-k3254|ns4-k3256|ns4-k3258|ns4-k3260|ns4-k3262|ns4-k3264|ns4-k3266|ns4-k3268|ns4-k3270|ns4-k3272|ns4-k3274|ns4-k3276|ns4-k3278|ns4-k3280|ns4-k3282|ns4-k3284|ns4-k3286|ns4-k3288|ns4-k3290|ns4-k3292|ns4-k3294|ns4-k3296|ns4-k3298|ns4-k3300|ns4-k3302|ns4-k3304|ns4-k3306|ns4-k3308|ns4-k3310|ns4-k3312|ns4-k3314|ns4-k3316|ns4-k3318|ns4-k3320|ns4-k3322|ns4-k3324|ns4-k3326|ns4-k3328|ns4-k3330|ns4-k3332|ns4-k3334|ns4-k3336|ns4-k3338|ns4-k3340|ns4-k3342|ns4-k3344|ns4-k3346|ns4-k3348|ns4-k3350|ns4-k3352|ns4-k3354|ns4-k3356|ns4-k3358|ns4-k3360|ns4-k3362|ns4-k3364|ns4-k3366|ns4-k3368|ns4-k3370|ns4-k3372|ns4-k3374|ns4-k3376|ns4-k3378|ns4-k3380|ns4-k3382|ns4-k3384|ns4-k3386|ns4-k3388|ns4-k3390|ns4-k3392|ns4-k3394|ns4-k3396|ns4-k3398|ns4-k3400|ns4-k3402|ns4-k3404|ns4-k3406|ns4-k3408|ns4-k3410|ns4-k3412|ns4-k3414|ns4-k3416|ns4-k3418|ns4-k3420|ns4-k3422|ns4-k3424|ns4-k3426|ns4-k3428|ns4-k3430|ns4-k3432|ns4-k3434|ns4-k3436|ns4-k3438|ns4-k3440|ns4-k3442|ns4-k3444|ns4-k3446|ns4-k3448|ns4-k3450|ns4-k3452|ns4-k3454|ns4-k3456|ns4-k3458|ns4-k3460|ns4-k3462|ns4-k3464|ns4-k3466|ns4-k3468|ns4-k3470|ns4-k3472|ns4-k3474|ns4-k3476|ns4-k3478|ns4-k3480|ns4-k3482|ns4-k3484|ns4-k3486|ns4-k3488|ns4-k3490|ns4-k3492|ns4-k3494|ns4-k3496|ns4-k3498|ns4-k3500|ns4-k3502|ns4-k3504|ns4-k3506|ns4-k3508|ns4-k3510|ns4-k3512|ns4-k3514|ns4-k3516|ns4-k3518|ns4-k3520|ns4-k3522|ns4-k3524|ns4-k3526|ns4-k3528|ns4-k3530|ns4-k3532|ns4-k3534|ns4-k3536|ns4-k3538|ns4-k3540|ns4-k3542|ns4-k3544|ns4-k3546|ns4-k3548|ns4-k3550|ns4-k3552|ns4-k3554|ns4-k3556|ns4-k3558|ns4-k3560|ns4-k3562|ns4-k3564|ns4-k3566|ns4-k3568|ns4-k3570|ns4-k3572|ns4-k3574|ns4-k3576|ns4-k3578|ns4-k3580|ns4-k3582|ns4-k3584|ns4-k3586|ns4-k3588|ns4-k3590|ns4-k3592|ns4-k3594|ns4-k3596|ns4-k3598|ns4-k3600|ns4-k3602|ns4-k3604|ns4-k3606|ns4-k3608|ns4-k3610|ns4-k3612|ns4-k3614|ns4-k3616|ns4-k3618|ns4-k3620|ns4-k3622|ns4-k3624|ns4-k3626|ns4-k3628|ns4-k3630|ns4-k3632|ns4-k3634|ns4-k3636|ns4-k3638|ns4-k3640|ns4-k3642|ns4-k3644|ns4-k3646|ns4-k3648|ns4-k3650|ns4-k3652|ns4-k3654|ns4-k3656|ns4-k3658|ns4-k3660|ns4-k3662|ns4-k3664|ns4-k3666|ns4-k3668|ns4-k3670|ns4-k3672|ns4-k3674|ns4-k3676|ns4-k3678|ns4-k3680|ns4-k3682|ns4-k3684|ns4-k3686|ns4-k3688|ns4-k3690|ns4-k3692|ns4-k3694|ns4-k3696|ns4-k3698|ns4-k3700|ns4-k3702|ns4-k3704|ns4-k3706|ns4-k3708|ns4-k3710|ns4-k3712|ns4-k3714|ns4-k3716|ns4-k3718|ns4-k3720|ns4-k3722|ns4-k3724|ns4-k3726|ns4-k3728|ns4-k3730|ns4-k3732|ns4-k3734|ns4-k3736|ns4-k3738|ns4-k3740|ns4-k3742|ns4-k3744|ns4-k3746|ns4-k3748|ns4-k3750|ns4-k3752|ns4-k3754|ns4-k3756|ns4-k3758|ns4-k3760|ns4-k3762|ns4-k3764|ns4-k3766|ns4-k3768|ns4-k3770|ns4-k3772|ns4-k3774|ns4-k3776|ns4-k3778|ns4-k3780|ns4-k3782|ns4-k3784|ns4-k3786|ns4-k3788|ns4-k3790|ns4-k3792|ns4-k3794|ns4-k3796|ns4-k3798|ns4-k3800|ns4-k3802|ns4-k3804|ns4-k3806|ns4-k3808|ns4-k3810|ns4-k3812|ns4-k3814|ns4-k3816|ns4-k3818|ns4-k3820|ns4-k3822|ns4-k3824|ns4-k3826|ns4-k3828|ns4-k3830|ns4-k3832|ns4-k3834|ns4-k3836|ns4-k3838|ns4-k3840|ns4-k3842|ns4-k3844|ns4-k3846|ns4-k3848|ns4-k3850|ns4-k3852|ns4-k3854|ns4-k3856|ns4-k3858|ns4-k3860|ns4-k3862|ns4-k3864|ns4-k3866|ns4-k3868|ns4-k3870|ns4-k3872|ns4-k3874|ns4-k3876|ns4-k3878|ns4-k3880|ns4-k3882|ns4-k3884|ns4-k3886|ns4-k3888|ns4-k3890|ns4-k3892|ns4-k3894|ns4-k3896|ns4-k3898|ns4-k3900|ns4-k3902|ns4-k3904|ns4-k3906|ns4-k3908|ns4-k3910|ns4-k3912|ns4-k3914|ns4-k3916|ns4-k3918|ns4-k3920|ns4-k3922|ns4-k3924|ns4-k3926|ns4-k3928|ns4-k3930|ns4-k3932|ns4-k3934|ns4-k3936|ns4-k3938|ns4-k3940|ns4-k3942|ns4-k3944|ns4-k3946|ns4-k3948|ns4-k3950|ns4-k3952|ns4-k3954|ns4-k3956|ns4-k3958|ns4-k3960|ns4-k3962|ns4-k3964|ns4-k3966|ns4-k3968|ns4-k3970|ns4-k3972|ns4-k3974|ns4-k3976|ns4-k3978|ns4-k3980|ns4-k3982|ns4-k3984|ns4-k3986|ns4-k3988|ns4-k3990|ns4-k3992|ns4-k3994|ns4-k3996|ns4-k3998|ns4-k4000|ns4-k4002|ns4-k4004|ns4-k4006|ns4-k4008|ns4-k4010|ns4-k4012|ns4-k4014|ns4-k4016|ns4-k4018|ns4-k4020|ns4-k4022|ns4-k4024|ns4-k4026|ns4-k4028|ns4-k4030|ns4-k4032|ns4-k4034|ns4-k4036|ns4-k4038|ns4-k4040|ns4-k4042|ns4-k4044|ns4-k4046|ns4-k4048|ns4-k4050|ns4-k4052|ns4-k4054|ns4-k4056|ns4-k4058|ns4-k4060|ns4-k4062|ns4-k4064|ns4-k4066|ns4-k4068|ns4-k4070|ns4-k4072|ns4-k4074|ns4-k4076|ns4-k4078|ns4-k4080|ns4-k4082|ns4-k4084|ns4-k4086|ns4-k4088|ns4-k4090|ns4-k4092|ns4-k4094|ns4-k4096|ns4-k4098|ns4-k4100|ns4-k4102|ns4-k4104|ns4-k4106|ns4-k4108|ns4-k4110|ns4-k4

status-a	drawer-slot-status optional	• "invalid_port_selector_attached" - Port selector attached, • "invalid_slot_count" - Invalid slot count, • "unsupported_phy_attached" - Unsupported PHY, • "enabled_12gbit" - 12 Gb/s, • "enabled_6gbit" - 6 Gb/s, • "enabled_3gbit" - 3 Gb/s, • "enabled_1gbit" - 1.5 Gb/s, • "enabled_disparity_error_count" - Invalid dword count, • "disabled_disparity_error_count" - Disparity error count, • "disabled_loss_of_sync_count" - Loss of sync count, • "disabled_reset_count" - Reset count, • "disabled_phy_change_count" - PHY change count, • "disabled_broadcast_change_count" - Broadcast change count Status Module B Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "enabled_sata_unknown" - Unknown rate, • "disabled" - Disabled, • "disabled_sata_negotiation_failed" - Speed negotiation failed, • "disabled_sata_bicprot_sync_op_state" - SATA target in spin up state, • "invalid_port_selector_attached" - Port selector attached, • "enabled_1.5gbit_unknown" - Progressing, • "unsupported_phy_attached" - Unsupported PHY, • "enabled_12gbit" - 12 Gb/s, • "enabled_6gbit" - 6 Gb/s, • "enabled_3gbit" - 3 Gb/s, • "enabled_1.5gbit" - 1.5 Gb/s, • "enabled_60gbit" - 60 Gb/s, • "disabled_invalid_dword_count" - Invalid dword count, • "disabled_disparity_error_count" - Disparity error count, • "disabled_loss_of_sync_count" - Loss of sync count, • "disabled_reset_count" - Reset count, • "disabled_phy_change_count" - PHY change count, • "disabled_broadcast_change_count" - Broadcast change count
status-b	drawer-slot-status optional	
type	drawer-slot-type optional	• "unknown" - Unknown, • "data" - Data, • "virtual" - Virtual, • "input" - Input

Element definition: **storage-shell-drawer-slot-info**

Storage shelf drawer slot When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
bay	[0..2^32-1]	integer optional	Bay Number Attributes: key, non-creatable, non-modifiable
drawer	[0..2^32-1]	integer optional	Drawer Number Attributes: non-creatable, non-modifiable
is-installed		boolean optional	Is Disk Installed Attributes: non-creatable, non-modifiable
shelf		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
slot	[0..2^32-1]	integer optional	Slot Number Attributes: non-creatable, non-modifiable

Element definition: **storage-shell-firmware-update-info**

Storage shelf firmware update status record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
in-progress-count	[0..2^32-1]	integer optional	Number of Shelves with Earlier Revisions Being Updated Attributes: non-creatable, non-modifiable
node		node-id optional	Node Attributes: key, non-creatable, non-modifiable
update-status	ifc-state optional	Disk Shelf Firmware Update Status Attributes: non-creatable, non-modifiable Possible values: • "running" - Disk shelf firmware update is in progress, • "idle" - Disk shelf firmware update is not in progress.

Element definition: **storage-shell-info**

Storage shelf record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
boot-devices		storage-shelf-boot-devices-info1 optional	Returns the boot device information.
ocp-battery		storage-shelf-ocp-battery-info1 optional	Returns the ocp battery information.
connection-type		storage-shelf-connection-type optional	Shelf Connection Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The connection type is unknown, • "fc" - The storage shelf connects to other devices via Fibre Channel, • "sas" - The storage shelf connects to other devices via Serial Attached SCSI, • "mixed" - The storage shelf connects to other devices via SCMe
cooling-fans		storage-shelf-cooling-fan-info1 optional	Returns cooling fan information.
current-sensors		storage-shelf-current-sensor-info1 optional	Returns current sensor information.
dimms		storage-shelf-dimm-info1 optional	Returns the DIMM information.
disk-count		uint32 optional	Disk Count Attributes: non-creatable, non-modifiable
fc-ports		storage-shelf-fc-port-info1 optional	Returns Fiber Channel port information.
is-local-attach		boolean optional	Is the Shelf Local to This Cluster? Attributes: non-creatable, non-modifiable
module-type		storage-shelf-module-type optional	Shelf Module Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown module type, • "ki_ka" - KI-FCX, • "sas" - IOM3, • "sas3" - IOM6, • "sas6" - IOM6E, • "sas12" - IOM12, • "sas12e" - IOM12E, • "sas12f" - IOM12F, • "sas24" - IOM24, • "sas100" - NS0M100, • "sas136" - IOM136, • "sas96" - NS0M96, • "sas144" - IOM144, • "sas18e" - NS0M18E
nsm-ports		storage-shelf-nsm-port-info1 optional	Returns NSM port information.
op-status		storage-shelf-operation optional	Shelf Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The operational status of the shelf is unknown, • "normal" - The shelf is operational, • "partial" - Some shelf components fail in the storage shelf, • "error" - The shelf has one or more faults that require immediate action, • "critical" - The shelf has one or more critical faults, • "standby_power" - The shelf is in standby power mode
paths		storage-shelf-path-info1 optional	Returns available shelf path information.
power-supply-units		storage-shelf-power-supply-unit-info1 optional	Returns power supply unit information.
sas-ports		storage-shelf-sas-port-info1 optional	Returns SAS port information.
serial-number		string optional	Shelf Serial Number Attributes: non-creatable, non-modifiable
shelf		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
shelf-bays		storage-shelf-bay-info1 optional	Returns shelf bay information.
shelf-errors		storage-shelf-error-info1 optional	Returns storage shelf errors.
shelf-id		string optional	Shelf ID Attributes: non-creatable, non-modifiable
shelf-model		string optional	Shelf Product Identification Attributes: non-creatable, non-modifiable
shelf-modules		storage-shelf-module-info1 optional	Returns I/O controller module information.
shelf-uid		string optional	Shelf UID Attributes: non-creatable, non-modifiable
stack-id		uuidgen810-rev-dce optional	Stack ID Attributes: non-creatable, non-modifiable
state		storage-shelf-state optional	Shelf State Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The shelf state is unknown, • "ok" - The shelf is online and functionable, • "not_required" - The shelf requires initialization, • "online" - The shelf is online, • "offline" - The shelf is offline, • "missing" - The shelf is missing
temperature-sensors		storage-shelf-temperature-sensor-info1 optional	Returns temperature sensor information.
vendor-name		string optional	Shelf Vendor Attributes: non-creatable, non-modifiable
voltage-sensors		storage-shelf-voltage-sensor-info1 optional	Returns voltage sensor information.

Element definition: **storage-shelf-led-status**

on/off Possible values:
• "off",
• "on",
• "unsupported"

[none]

Element definition: **storage-shelf-location-led-info**

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
led-status		storage-shelf-led-status optional	Location LED Attributes: non-creatable, modifiable Possible values: • "off", • "on", • "unsupported"
shelf-id	[0..2^32-1]	integer optional	Shelf ID Attributes: non-creatable, non-modifiable
shelf-name		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
stack-id	[0..2^32-1]	integer optional	Stack ID Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-location-led-modify-iter-info**

Information about the modify operation that was attempted/performed against storage-shelf object.

Name	Range	Type	Description
error-code	[0..2^32-1]	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
storage-shelf-key		storage-shelf-key-info optional	The keys for the storage-shelf object to which the modify operation applies.

Element definition: **storage-shelf-port-info**

Storage shelf port record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cable-end		shelf-cable-end optional	Cable End Attributes: non-creatable, non-modifiable Possible values: • "end_1" - end 1, • "end_2" - end 2
cable-id		string optional	Cable ID Attributes: non-creatable, non-modifiable
cable-length		string optional	Cable Length Attributes: non-creatable, non-modifiable
cable-part-number		string optional	Cable Part Number Attributes: non-creatable, non-modifiable
cable-technology		storage-shelf-cable-technology optional	Cable Technology Attributes: non-creatable, non-modifiable Possible values: • "active_copper" - Active Copper, • "passive_copper" - Passive Copper, • "optical" - Optical
cable-vendor		string optional	Cable Vendor Attributes: non-creatable, non-modifiable
connector-serial-number		string optional	Connector Serial Number Attributes: non-creatable, non-modifiable
connector-state		storage-shelf-connector-state optional	Connector State Attributes: non-creatable, non-modifiable Possible values: • "connected" - Cable is connected, • "disconnected" - Cable is disconnected, • "error" - Cable is connected and is reporting errors.
connector-type		storage-shelf-connector-type optional	Connector Type Attributes: non-creatable, non-modifiable Possible values: • "qsfp" - QSFP, • "sfp" - SFP/SFP+, • "sas" - Mini-SAS HD, • "sff8639" - QSFP28
designator		string optional	Designator Attributes: non-creatable, non-modifiable
id	[0..2^32-1]	integer optional	Port ID Attributes: key, non-creatable, non-modifiable
is-cable-connected		boolean optional	Is Cable Connected? Attributes: non-creatable, non-modifiable
is-error		boolean optional	Any Errors? Attributes: non-creatable, non-modifiable
is-internal		boolean optional	Is Port Internal? Attributes: non-creatable, non-modifiable
location		string optional	Location Attributes: non-creatable, non-modifiable
mac		mac-address optional	Local MAC Address Attributes: non-creatable, non-modifiable
module-id		shelf-module-id optional	Module ID Attributes: non-creatable, non-modifiable Possible values: • "a" - IOM A, • "b" - IOM B, • "unknown" - unknown
remote-chassis		string	Remote Chassis Attributes: non-creatable, non-modifiable

		[leaf-list](#)	
remote-device		[leaf](#)	Remote Device Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-mac		[mac-address](#)	Remote MAC Address Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-phy		[string](#)	Remote Phy Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-port		[string](#)	Remote Port Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
remote-wwn		[string](#)	Remote Device WWN Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
shelf		[string](#)	Shelf Name Attributes: key, non-creatable, non-modifiable
		[container](#)	
swap-count	[0..2^32-1]	[leaf](#)	Swap Count Attributes: non-creatable, non-modifiable
		[leaf-list](#)	
wwn		[leaf-list](#)	Local Device WWN Attributes: non-creatable, non-modifiable

Element definition: **true-false** [type]

true|false

[name]

Element definition: **acp-error-type-enum** [type]

No-Error|Connection-Issue|Connection-Activity|Module-Error|Shelf-Error Possible values:

- "no_error" - No error found,
- "connection_issue" - System is reporting an error with the connection,
- "connection_activity" - Connection activity is not active,
- "module_error" - The ACP processor is reporting an error,
- "shelf_error" - The shelf is reporting an error

[name]

Element definition: **acpp-state-enum** [type]

unknown|initializing|discovery complete|awaiting reboot|no-reboot|active|awaiting boot|updating firmware|connection error|firmware update required|rebooting|fail|unsupported|degraded|shelf off Possible values:

- "unknown" - The status of the processor is unknown,
- "initializing" - The processor is initializing,
- "discovery_complete" - The processor has completed discovery,
- "awaiting_reboot" - The system has no processor ID for the module, reach itself from the module,
- "no_reboot" - The system has no processor ID for the module,
- "active" - The processor is active and can be seen by the system,
- "awaiting_boot" - The processor is waiting for the system to discover it,
- "updating_firmware" - The processor is updating firmware,
- "connection_error" - The processor is reporting a connection error,
- "firmware_update_required" - The processor requires a firmware update,
- "rebooting" - The processor is rebooting,
- "fail" - The processor is failed and needs to be replaced,
- "unsupported" - The processor is unsupported and needs to be upgraded,
- "degraded" - The processor is degraded and a replacement is recommended,
- "shelf_off" - The processor is in power off state

[name]

Element definition: **channel-enum** [type]

unknown|out-of-band|in-band Possible values:

- "unknown" - The connection type is unknown,
- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[name]

Element definition: **connection-status-enum** [type]

no-connectivity|partial-connectivity|full-connectivity|additional-connectivity|unknown-connectivity|not-available|connection-disabled Possible values:

- "no_connectivity" - Error in connectivity. System is unable to see any connectivity,
- "partial_connectivity" - Error in connectivity. System is seeing only partial connectivity,
- "full_connectivity" - No Error in connectivity. System is seeing full connectivity,
- "additional_connectivity" - Error in connectivity. System is seeing additional connectivity,
- "unknown_connectivity" - Error in connectivity. System is unable to determine nature of error,
- "not_available" - Error in connectivity. System is unable to see connectivity,
- "listen_only" - Connection disabled. ACP needs to be in listen only,
- "disabled" - Connection disabled. ACP needs to be configured

[name]

Element definition: **drawer-path-status** [type]

unknown|ok|degraded|none Possible values:

- "unknown" - Unknown,
- "ok" - Ok,
- "degraded" - Degraded,
- "none" - None

[name]

Element definition: **drawer-phy-state** [type]

unknown|enabled|disabled Possible values:

- "unknown" - Unknown,
- "enabled" - Enabled,
- "disabled" - Disabled

[name]

Element definition: **drawer-phy-status** [type]

Drawer PHY Status Possible values:

- "unknown" - Unknown,
- "enabled_rate_unknown" - Unknown rate,
- "disabled" - Disabled,
- "enabled_sata_negotiation_failed" - Speed negotiation failed,
- "enabled_sata_target_spin_up_state" - SATA target in spin up state,
- "enabled_port_selector_attached" - Port selector attached,
- "enabled_1_5gbps" - 1.5 Gb/s negotiated,
- "unsupported_phy_attached" - Unsupported PHY,
- "enabled_3Gbps" - 3.0 Gb/s,
- "enabled_6Gbps" - 6.0 Gb/s,
- "enabled_12gbps" - 12 Gb/s,
- "enabled_22gbps" - 22.5 Gb/s,
- "enabled_45gbps" - 45 Gb/s,
- "disabled_invalid_dword_count" - Invalid dword count,
- "disabled_disparity_error_count" - Disparity error count,
- "disabled_loss_of_sync_count" - Loss of sync count,
- "disabled_phy_reset_problem" - Phy reset problem,
- "disabled_phy_change_count" - PHY change count,
- "disabled_broadcast_change_count" - Broadcast change count

[name]

Element definition: **drawer-phy-type** [type]

unknown|disk|virtual|input Possible values:

- "unknown" - Unknown,
- "disk" - Disk,
- "virtual" - Virtual,
- "input" - Input

[name]

Element definition: **drawer-status** [type]

unknown|normal|warning|error|critical Possible values:

- "unknown" - Unknown,
- "normal" - Normal,
- "warning" - Warning,
- "error" - Error,
- "critical" - Critical

[name]

Element definition: **filer-id** [type]

Filer ID(0)

[name]

Element definition: **iom-type-enum** [type]

Unknown|Iom3|Iom6|Iom6E|Iom12|Iom12e|Iom12f|Iom12g|Iom12q Possible values:

- "unknown" - The processor is reporting an error, and is unaware of its type,
- "iom3" - The processor is of type IOM3,
- "iom6" - The processor is of type IOM6,
- "iom6e" - The processor is of type IOM6E,
- "iom12" - The processor is of type IOM12,
- "iom12e" - The processor is of type IOM12E,
- "iom12f" - The processor is of type IOM12F,
- "iom12g" - The processor is of type IOM12G,
- "iom12q" - The processor is of type IOM12q

[name]

Element definition: **ip-address** [type]

IPv4 and IPv6 address

[name]

Element definition: **mac-address** [type]

MAC Address

[name]

Element definition: **node-name** [type]

The node's name

[name]

Element definition: **open-closed** [type]

open|closed Possible values:

- "unknown" - Unknown,
- "open" - Open,
- "closed" - Closed

[name]

Element definition: **sfu-status** [type]

running|idle Possible values:

- "running" - Disk shelf firmware update is in progress,
- "idle" - Disk shelf firmware update is not in progress

[name]

Element definition: **shelf-cable-end** [type]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[name]

Element definition: **shelf-module-id** [type]

A|B Possible values:

- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[name]

Element definition: **storage-shelf-bay-info** [type]

Returns shelf bay information.

Name	Range	Type	Description
bay-has-disk		[boolean](#)	Bay Has Disk Attributes: non-creatable, non-modifiable
		[container](#)	
bay-id		[uniontype(0..2^32-1|string)](#)	Bay ID Attributes: non-creatable, non-modifiable
		[container](#)	
			Bay Operational Status Attributes: non-creatable, non-modifiable Possible values:

key-up-status	storage-shelf-key-up-status optional		• "unknown" - The operational status of the disk bay is unknown, • "normal" - The operational status of the disk bay is normal, • "error" - The operational status of the disk bay is error Key Type Attributes: non-creatable, non-modifiable Possible values:
key-type	storage-shelf-key-type optional		• "unknown" - The disk bay type is unknown, • "sata_sas" - The disk bay carries SATA or SAS disks, • "nvdi_ssd" - The disk bay carries multiple U2Ns

Element definition: **storage-shelf-boot-device-info**

[top]

Returns the boot device information.

Name	Range	Type	Description
boot-device-id	**[0..2^32-1]**	integer optional	Boot Device ID Attributes: non-creatable, non-modifiable
boot-device-module-id		shelf-module-id optional	Boot Device Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
boot-device-op-status		storage-shelf-boot-device-op-status optional	Boot Device Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "normal" - Normal, • "off" - Off, • "not_supported" - Not Supported, • "not_installed" - Not Installed
boot-device-size		string optional	Boot Device Size Attributes: non-creatable, non-modifiable
boot-device-type		string optional	Boot Device Type Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-cable-technology**

[top]

active-copper|passive-copper|optical Possible values:

- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[name]

Element definition: **storage-shelf-coin-battery-info**

[top]

Returns the coin battery information.

Name	Range	Type	Description
coin-battery-id	**[0..2^32-1]**	integer optional	Coin Battery ID Attributes: non-creatable, non-modifiable
coin-battery-module-id		shelf-module-id optional	Coin Battery Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
coin-battery-op-status		storage-shelf-coin-battery-op-status optional	Coin Battery Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "normal" - Normal, • "off" - Off, • "low" - Low Voltage, • "high" - High Voltage, • "not_supported" - Not Supported, • "not_installed" - Not Installed
coin-battery-voltage	**[0..2^32-1]**	integer optional	Coin Battery Voltage (mV) Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-connection-type**

[top]

unknown|fc|sas|none Possible values:

- "unknown" - The connection type is unknown,
- "fc" - The storage shelf connects to other devices via Fibre Channel,
- "sas" - The storage shelf connects to other devices via Serial Attached SCSI,
- "none" - The storage shelf connects to other devices via NVMe

[name]

Element definition: **storage-shelf-connector-state**

[top]

connected|disconnected|error Possible values:

- "connected" - Cable is connected,
- "disconnected" - Cable is disconnected,
- "error" - Cable is connected and is reporting errors

[name]

Element definition: **storage-shelf-connector-type**

[top]

QSFP|QSFP+|QSFP28|Mini-SAS-HD Possible values:

- "qsfp" - QSFP,
- "qsfp" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "qsfp28" - QSFP28

[name]

Element definition: **storage-shelf-cooling-fan-info**

[top]

Returns cooling fan information.

Name	Range	Type	Description
fan-id		unsigned32-or-null optional	Fan ID Attributes: non-creatable, non-modifiable
fan-location		string optional	Fan Location Attributes: non-creatable, non-modifiable
fan-op-status		storage-shelf-fan-op-status optional	Fan Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "off" - Off, • "error" - Error, • "not_supported" - Not Supported, • "not_installed" - Not Installed
fan-rpm		unsigned32-or-null optional	Fan Rotation Per Minute Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-current-sensor-info**

[top]

Returns current sensor information.

Name	Range	Type	Description
current-op-status		storage-shelf-current-op-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "over_current_critical" - Critical Over Current, • "under_current_critical" - Critical Under Current, • "not_supported" - Not Supported, • "not_installed" - Not Installed
current-sensor-id		unsigned32-or-null optional	Current Sensor ID Attributes: non-creatable, non-modifiable
current-sensor-location		string optional	Current Sensor Location Attributes: non-creatable, non-modifiable
current-sensor-reading		unsigned32-or-null optional	Current Sensor Reading Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-dimm-info**

[top]

Returns the DIMM information.

Name	Range	Type	Description
dimm-id	**[0..2^32-1]**	integer optional	DIMM ID Attributes: non-creatable, non-modifiable
dimm-location		string optional	DIMM Location Attributes: non-creatable, non-modifiable
dimm-module-id		shelf-module-id optional	DIMM Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
dimm-op-status		storage-shelf-dimm-op-status optional	DIMM Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "normal" - Normal, • "error" - Error, • "not_supported" - Not Supported, • "not_installed" - Not Installed
dimm-size		string optional	DIMM Size Attributes: non-creatable, non-modifiable
dimm-type		string optional	DIMM Type Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-error-info**

[top]

Returns storage shelf errors.

Name	Range	Type	Description
component-location		string optional	Location of component with error Attributes: non-creatable, non-modifiable
corrective-action		string optional	Corrective Action Attributes: non-creatable, non-modifiable
error-id		unsigned32-or-null optional	Error Identifier Attributes: non-creatable, non-modifiable
error-severity		storage-shelf-error-severity optional	Error Severity Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The error severity is unknown, • "notice" - A normal-priority message, does not indicate a fault, • "warning" - A high-priority warning message, does not indicate a fault, • "error" - A fault condition which is not immediately fatal but requires immediate attention, • "critical" - A critical fault condition, typically disruptive
error-text		string optional	Error Text Attributes: non-creatable, non-modifiable
error-type		storage-shelf-error-type optional	Error Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "loop" - Sporadic control path processor error, • "configuration" - Configuration error, • "cooling" - Cooling error, • "fan" - Cooling fan error, • "module" - I/O controller module error, • "power_supply" - Power supply error, • "temperature" - Temperature error, • "voltage" - Voltage error, • "undefined" - Root device error, • "bootmedia" - Boot media error, • "dimm" - DIMM error, • "expander" - Expander error, • "pcie" - PCIe error
shelf-component		string optional	Shelf component with error Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-error-severity**

[top]

unknown|notice|warning|error|critical Possible values:

- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[name]

Element definition: **storage-shelf-fc-port-info**

[top]

Returns Fiber Channel port information.

Name	Range	Type	Description
fc-port-id		integer optional	Fibre Channel Port ID Attributes: non-creatable, non-modifiable
fc-port-mode		storage-shelf-port-type optional	Fibre Channel Port Mode Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port type is unknown, • "circle" - Circle, • "square" - Square, • "qc" - QC, • "dot" - Dot, • "in" - In, • "out" - Out, • "not_shared" - Not Shared, • "host" - Host, • "disk" - DCM, • "iom_a" - IOM A, • "dot2" - Dot 2, • "h_ha" - H-Ha, • "h_iom_b" - IOM B, • "h_to_a" - H-to-A Fibre Channel Port Operational Status Attributes: non-creatable, non-modifiable Possible values: • "error" - Error, • "not_shared" - Not Shared, • "offline" - Offline, • "unknown_status" - StatusUnknown, • "online" - Online, • "loop_bad_term" - loop-bad-term, • "lost_loop_recovery" - lost-loop-recovery, • "loop_ok" - loop-ok, • "loop_control_fail" - loop_control_ins, • "loop_crc_bad_fix" - loop_crc_bad_fix, • "loop_crc_bad_unfix" - loop_crc_bad_unfix, • "loop_data_timeout" - loop_data_timeout, • "loop_drv_fault" - loop_drv_fault, • "loop_drv_not_ready" - loop_drv_not_ready, • "loop_drv_proc" - loop_drv_proc, • "loop_drv_self" - loop_proc, • "loop_frame" - loop_frame, • "loop_init" - loop_init, • "loop_lip_lost_fix" - loop_lip_lost_fix,

fc-port-op-status	storage-shelf-port-op-status optional	"bys_fc_fc" - bys_fc_fc, "bys_fc_fc_rate_fix" - bys_fc_fc_rate_fix, "bys_fcal" - bys_fcal, "bys_fcbb" - bys_fcbb, "bys_fcvi" - bys_fcvi, "bys_nic" - bys_nic, "bys_nic_driver" - bys_nic_driver, "bys_offline" - bys_offline, "bys_other_fc" - bys_other_fc, "bys_nic_lic" - bys_nic_lic, "bys_fcal_lic" - bys_fcal_lic, "bys_fcbb_lic" - bys_fcbb_lic, "bys_wrd_limi_lic" - bys_wrd_limi_lic, "bys_wrd_limi_driver" - bys_wrd_limi_dri, "bys_crnt_fault" - bys_crnt_fault, "diag_transmit" - diag_transmit, "loopback" - loopback, "loopback" - loopback, "status_unknown" - status_unknown, "warn_high_crc_rate" - warn_high_crc_defa, "warn_high_crc_rate" - warn_high_crc_rate, "warn_high_fp" - warn_high_fp, "warn_high_wrd_rate" - warn_high_wrd_rate, "warn_low_wrd_rate" - warn_low_wrd_rate, "down" - down, "phy_dis_crc_fault" - phy_dis_crc_fault, "phy_dis_crc_err" - phy_dis_crc_err, "phy_dis_crc_err_burst" - phy_dis_crc_err_burst, "phy_dis_disparity" - phy_dis_disparity, "phy_dis_disparity_burst" - phy_dis_disparity_burst, "phy_dis_invalid_dword" - phy_dis_invalid_dword_receive, "phy_dis_invalid_dword" - phy_dis_invalid_dword, "phy_dis_invalid_dword_burst" - phy_dis_invalid_dword_burst, "phy_dis_loss_dword" - phy_dis_loss_dword, "phy_dis_loss_dword_burst" - phy_dis_loss_dword_burst, "phy_dis_man_phy" - phy_dis_man_phy, "phy_dis_reset" - phy_dis_reset, "disabled_removed" - Disabled/Removed, "empty" - Empty, "phy_dis_phy_change" - phy_dis_phy_change, "phy_dis_phy_change_burst" - phy_dis_phy_change_burst, "phy_dis_phy_reset" - phy_dis_phy_reset, "phy_dis_phy_reset_burst" - phy_dis_phy_reset_burst, "disabled" - Phy is disabled or unused, "enabled" - Phy is enabled, "phy_not_present" - Phy not attached, "phy_oop_unknown" - phy_oop_unknown, "unknown" - Unknown Phy, "phy_dis_illegal" - Disabled/Illegal

Element definition: **storage-shelf-led-status**

[Input]

enum Possible values:
- "off",
- "on",
- "unsupported"

[/input]

Element definition: **storage-shelf-location-led-info**

[Input]

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.
When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.
When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
led-status		storage-shelf-led-status optional	Location LED Attributes: non-creatable, modifiable Possible values: • "off", • "on", • "unsupported"
shelf-id	[0..2^32-1]	storage-shelf-id optional	Shelf ID Attributes: non-creatable, non-modifiable
shelf-name		string optional	Shelf Name Attributes: key, non-creatable, non-modifiable
stack-id	[0..2^32-1]	storage-stack-id optional	Stack ID Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-module-info**

[Input]

Returns I/O controller module information.

Name	Range	Type	Description
ec-serial-number		string optional	ES Electronics Element Serial Number Attributes: non-creatable, non-modifiable
is-monitor-active		boolean optional	Is Monitor Active? Attributes: non-creatable, non-modifiable
is-sas-master-module		boolean optional	Is SAS Expander Master Module? Attributes: non-creatable, non-modifiable
module-fru-id		string optional	Field Replaceable Unit ID Attributes: non-creatable, non-modifiable
module-fw-progress		storage-shelf-fw-fw-fw-progress optional	Module Firmware Progress Attributes: non-creatable, non-modifiable Possible values: • "not_available" - Not available, • "ready" - Ready, • "in_progress" - In Progress, • "failed" - Failed
module-fw-revision		string optional	Firmware Revision Attributes: non-creatable, non-modifiable
module-id		string optional	Module ID Attributes: non-creatable, non-modifiable
module-is-reporting-element		boolean optional	Is Reporting Element? Attributes: non-creatable, non-modifiable
module-latest-fw-revision		string optional	Latest Firmware Revision Attributes: non-creatable, non-modifiable
module-location		string optional	Module Location Attributes: non-creatable, non-modifiable
module-op-status		storage-shelf-module-op-status optional	Module Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - The operational status of the module is unknown, • "normal" - The shelf module is operational, • "warning" - There are warning conditions, the module is operational, • "error" - The shelf module has one or more errors that require immediate action, • "not_installed" - The shelf module is not installed
module-part-number		string optional	Module Part Number Attributes: non-creatable, non-modifiable
module-swap-count		storage-shelf-swap-count optional	Module Swap Count Attributes: non-creatable, non-modifiable
module-type		storage-shelf-module-type optional	Module Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown module type, • "at_ifcx" - AT-ICX, • "iom3" - IOM3, • "iom6" - IOM6, • "iom6E" - IOM6E, • "ses12" - SES12, • "ses12e" - SES12E, • "ses24" - SES24, • "ses24e" - SES24E, • "ses100" - SES100, • "ses100e" - SES100E, • "ses3x" - SES3X, • "ses12g" - SES12G, • "ses24e" - SES12E

Element definition: **storage-shelf-module-type**

[Input]

unknown|at_ifcx|iom6|iom3|iom6E|ses12|ses24|ses12e|ses100|ses100e|ses-3x|ses-12g|ses-12g Possible values:
- "unknown" - Unknown module type,
- "at_ifcx" - AT-ICX,
- "iom3" - IOM3,
- "iom6" - IOM6,
- "iom6E" - IOM6E,
- "ses12" - SES12,
- "ses12e" - SES12E,
- "ses24" - SES24,
- "ses24e" - SES24E,
- "ses100" - SES100,
- "ses100e" - SES100E,
- "ses3x" - SES3X,
- "ses12g" - SES12G,
- "ses24e" - SES12E

[/input]

Element definition: **storage-shelf-nsm-port-info**

[Input]

Returns NSM port information.

Name	Range	Type	Description
nsm-port-bay	[0..2^32-1]	integer optional	Port Bay Attributes: non-creatable, non-modifiable
nsm-port-id	[0..2^32-1]	integer optional	Port ID Attributes: non-creatable, non-modifiable
nsm-port-module-id		shelf-fc-port-module-id optional	Port Module ID Attributes: non-creatable, non-modifiable Possible values: • "A" - IOM A, • "B" - IOM B, • "unknown" - unknown
nsm-port-speed		storage-shelf-nsm-port-speed optional	Port Speed Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port speed is unknown, • "1_0" - 1.0 Gb/s, • "2_0" - 2.0 Gb/s, • "4_0" - 4.0 Gb/s
nsm-port-speed-max		storage-shelf-nsm-port-speed optional	Max Port Speed Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port speed is unknown, • "2_0" - 2.0 Gb/s, • "5_0" - 5.0 Gb/s, • "8_0" - 8.0 Gb/s
nsm-port-state		storage-shelf-nsm-port-state optional	Port State Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port state is unknown, • "off" - Off, • "off_link_disabled" - Off, Link Disabled, • "off_dll_link" - Off, Data Link Layer Link, • "link_down" - Link Down, • "no_drive" - No Drive
nsm-port-type		storage-shelf-nsm-port-type optional	Port Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port type is unknown, • "cpu" - CPU, • "sas" - SAS, • "nsm" - NetX, • "ethernet" - Ethernet

Element definition: **storage-shelf-op-status**

[Input]

unknown|normal|warning|error|critical|standby power Possible values:
- "unknown" - The operational status of the shelf is unknown,
- "normal" - The shelf is operational,
- "warning" - There are warning conditions in the storage shelf,
- "error" - The shelf has one or more faults that require immediate action,
- "critical" - The shelf has one or more critical faults,
- "standby_power" - The shelf is in standby power mode

[/input]

Element definition: **storage-shelf-path-info**

[Input]

Returns available shelf path information.

Name	Range	Type	Description
controller		node-name optional	Controller Name Attributes: non-creatable, non-modifiable
controller-uuid		string optional	Controller UUID Attributes: non-creatable, non-modifiable
initiator		string optional	Initiator Attributes: non-creatable, non-modifiable
initiator-side-switch-port		string optional	Initiator Side Switch Port Attributes: non-creatable, non-modifiable
initiator-wwpn		string optional	Initiator WWPN Attributes: non-creatable, non-modifiable
io-kbps		unsigned32 or nil optional	Kbytes/sec on Storage Shelf Attributes: non-creatable, non-modifiable
iops		unsigned32 or nil optional	Number IOPS per Second on Storage Shelf Attributes: non-creatable, non-modifiable
port-speed		unsigned32 or nil optional	Port Speed Attributes: non-creatable, non-modifiable
target-port		string optional	Target Port Attributes: non-creatable, non-modifiable
target-side-switch-port		string optional	Target Side Switch Port Attributes: non-creatable, non-modifiable
tpgn		unsigned32 or nil optional	Target Port Group Number Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-power-supply-unit-info**

[Input]

Returns power supply unit information.

Name	Range	Type	Description
psu-vrmt-factor		unsigned32 or nil optional	Power Supply Vrmt Factor Attributes: non-creatable, non-modifiable
psu-fw-version		string optional	Power Supply Unit Firmware Version Attributes: non-creatable, non-modifiable
psu-id		unsigned32 or nil optional	Power Supply Unit ID Attributes: non-creatable, non-modifiable
psu-is-enabled		boolean optional	Power Supply Unit Enable/Disable Status Attributes: non-creatable, non-modifiable
psu-location		string optional	Power Supply Unit Location Attributes: non-creatable, non-modifiable
psu-op-status		storage-shelf-psu-op-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "failed" - Failed, • "dc_over_voltage" - DC Over Voltage, • "dc_under_voltage" - DC Under Voltage, • "dc_over_current" - DC Over Current, • "over_temperature_error" - Over Temperature, • "failed" - Failed, • "off" - Off, • "not_supported" - Not Supported, • "not_installed" - Not Installed
psu-part-number		string optional	Power Supply Unit Part Number Attributes: non-creatable, non-modifiable
psu-power-drawn		unsigned32 or nil optional	Power Drawn From PSU In Watts Attributes: non-creatable, non-modifiable
psu-power-rating		unsigned32 or nil optional	Power Supply Power Ratings In Watts Attributes: non-creatable, non-modifiable

psu-reset-capable	boolean optional	Power Supply Unit Reset Capability Attributes: non-creatable, non-modifiable
psu-serial-number	string optional	Power Supply Unit Serial Number Attributes: non-creatable, non-modifiable
psu-type	string optional	Power Supply Unit Type Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-sas-port-info**

[type]

Returns SAS port information.

Name	Range	Type	Description
sas-negotiated-port-speed		string optional	Negotiated Port Speed Attributes: non-creatable, non-modifiable
sas-port-id		string optional	Port ID Attributes: non-creatable, non-modifiable
sas-port-module-id		shelf-module-id optional	Port Module ID Attributes: non-creatable, non-modifiable Possible values: • "a" - IOM A, • "b" - IOM B, • "unknown" - unknown
sas-port-op-status		storage-shelf-port-op-status optional	Port Operational Status Attributes: non-creatable, non-modifiable Possible values: • "error" - Error, • "normal" - Normal, • "offline" - Offline, • "unknown" - Unknown Status/Unknown, • "unused" - Unused, • "bcp_bad_brnv" - bcp-bad-brnv, • "bcp_boot_recovery" - bcp-boot-recovery, • "bcp_clk_fail" - bcp_clk_fail, • "bcp_comms_fail" - bcp_comms_fail, • "bcp_ov_rate_crit" - bcp_ov_rate_crit, • "bcp_uv_rate_crit" - bcp_uv_rate_crit, • "bcp_data_timeout" - bcp_data_timeout, • "bcp_dcv_fail" - bcp_dcv_fail, • "bcp_dcv_pwrdn" - bcp_dcv_pwrdn, • "bcp_dcv_pwr" - bcp_dcv_pwr, • "bcp_pwr_off" - bcp_pwr, • "bcp_sci_fail" - bcp_sci, • "bcp_init" - bcp_init, • "bcp_ov_brd_thr" - bcp_ov_brd_thr, • "bcp_ov_brd" - bcp_ov_brd, • "bcp_uv_rate_thr" - bcp_uv_rate_thr, • "bcp_fpga" - bcp_fpga, • "bcp_main" - bcp_main, • "bcp_mbr" - bcp_mbr, • "bcp_no_drive" - bcp_no_drive, • "bcp_oc_fault" - bcp_oc, • "bcp_other_thr" - bcp_other_thr, • "bcp_rec_to" - bcp_rec_to, • "bcp_sci_to" - bcp_sci_to, • "bcp_stat_thr" - bcp_stat_thr, • "bcp_ard_brd_thr" - bcp_ard_brd_thr, • "bcp_ard_brd" - bcp_ard_brd_fault, • "bcp_ard_fault" - bcp_ard_fault, • "dag_transmit" - dag_transmit, • "fpga_fault" - fpga, • "modules" - modules, • "status_unknown" - status_unknown, • "warn_high_ov_brd" - warn_high_ov_delta, • "warn_high_ov_rate" - warn_high_ov_rate, • "warn_high_to" - warn_high_to, • "warn_uv_brd_rate" - warn_uv_brd_rate, • "warn_ard_brd" - warn_ard_brd, • "psvc" - psvc, • "phy_dls_clk_fault" - phy_dls_clk_fault, • "phy_dls_crc_err" - phy_dls_crc_err, • "phy_dls_crc_err_burst" - phy_dls_crc_err_burst, • "phy_dls_disparity" - phy_dls_disparity, • "phy_dls_disparity_burst" - phy_dls_disparity_burst, • "phy_dls_encodate_reserve" - phy_dls_encodate_reserve, • "phy_dls_invd_dword" - phy_dls_invd_dword, • "phy_dls_invd_dword_burst" - phy_dls_invd_dword_burst, • "phy_dls_loss_dword" - phy_dls_loss_dword, • "phy_dls_loss_dword_burst" - phy_dls_loss_dword_burst, • "phy_dls_man_disable" - phy_dls_man_disable, • "phy_dls_noimsel" - Disabled/Removed, • "phy_dls_psvcsel" - Disabled/Removed, • "enabled" - Phy is enabled, • "phy_dls_phy_change" - phy_dls_phy_change, • "phy_dls_phy_change_burst" - phy_dls_phy_change_burst, • "phy_dls_phy_reset" - phy_dls_phy_reset, • "phy_dls_phy_reset_burst" - phy_dls_phy_reset_burst, • "disabled" - Phy is disabled or unused, • "enabled" - Phy is enabled, • "no_device" - No device attached, • "phy_mia_unknown" - phy_mia_unknown, • "unknown" - Unknown Phy, • "phy_dls_illegal" - Disabled/Illegal
sas-port-power-status		string optional	Port Power Status Attributes: non-creatable, non-modifiable
sas-port-speed		string optional	Port Speed Attributes: non-creatable, non-modifiable
sas-port-type		shelf-port-type optional	Port Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Port type is unknown, • "qsfp" - QSFP, • "qsfpdd" - QSFP-DD, • "sff" - SFF, • "sfp" - SFP, • "qsfp" - QSFP, • "out" - Out, • "unused" - Unused, • "mini" - Mini, • "dsm" - DCM, • "dsm2" - DCM 2, • "ft_fc" - FC-FC, • "ft_fcf" - FC-FCF, • "ft_ib_a" - IB-to-A, • "ft_ib_e" - IB-to-E
sas-port-wwpn		string optional	Port World Wide Port Name Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-state**

[type]

unknown|no-state|init-required|online|offline|missing Possible values:
- "unknown" - The shelf state is unknown,
- "no_status" - The shelf state is not available,
- "init_required" - The shelf requires initialization,
- "online" - The shelf is online,
- "offline" - The shelf is offline,
- "missing" - The shelf is missing

[name]

Element definition: **storage-shelf-temperature-sensor-info**

[type]

Returns temperature sensor information.

Name	Range	Type	Description
high-critical-threshold		unsigned32-or-null optional	High Critical Threshold Attributes: non-creatable, non-modifiable
high-warning-threshold		unsigned32-or-null optional	High Warning Threshold Attributes: non-creatable, non-modifiable
temp-in-ambient		integer optional	Temperature Reading at Ambient Value Attributes: non-creatable, non-modifiable
temp-low-critical-threshold		unsigned32-or-null optional	Low Critical Threshold Attributes: non-creatable, non-modifiable
temp-low-warning-threshold		unsigned32-or-null optional	Low Warning Threshold Attributes: non-creatable, non-modifiable
temp-sane-op-status		storage-shelf-temperature-sensor-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "under_temperature" - Under Temperature, • "over_temperature" - Over Temperature, • "error" - Error, • "not_supported" - Not Supported, • "not_installed" - Not Installed
temp-sensor-id		unsigned32-or-null optional	Sensor Name Attributes: non-creatable, non-modifiable
temp-sensor-reading		unsigned32-or-null optional	Temperature Reading Attributes: non-creatable, non-modifiable

Element definition: **storage-shelf-voltage-sensor-info**

[type]

Returns voltage sensor information.

Name	Range	Type	Description
voltage-op-status		storage-shelf-voltage-op-status optional	Operational Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown Status, • "normal" - Normal, • "over_voltage_critical" - Critical Over Voltage, • "under_voltage_critical" - Critical Under Voltage, • "not_supported" - Not Supported, • "not_installed" - Not Installed, • "not_recoverable" - Not Recoverable
voltage-sensor-id		unsigned32-or-null optional	Voltage Sensor ID Attributes: non-creatable, non-modifiable
voltage-sensor-location		string optional	Voltage Sensor Location Attributes: non-creatable, non-modifiable
voltage-sensor-reading		string optional	Voltage Current Reading Attributes: non-creatable, non-modifiable

Element definition: **unsigned64-or-dash**

[type]

[name]

Element definition: **node-name**

[type]

The node's name

[name]

Element definition: **shelf-module-id**

[type]

A|B Possible values:
- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[name]

Element definition: **storage-shelf-bay-op-status**

[type]

unknown|normal|error Possible values:
- "unknown" - The operational status of the disk bay is unknown,
- "normal" - The operational status of the disk bay is normal,
- "error" - The operational status of the disk bay is error

[name]

Element definition: **storage-shelf-bay-type**

[type]

unknown|single-disk|multi-lun Possible values:
- "unknown" - The disk bay type is unknown,
- "single_disk" - The disk bay carries a single disk,
- "multi_lun" - The disk bay carries multiple LUNs

[name]

Element definition: **storage-shelf-boot-device-op-status**

[type]

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[name]

Element definition: **storage-shelf-coin-battery-op-status**

[type]

unknown|normal|error|low|high|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "low" - Low Voltage,
- "high" - High Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[name]

Element definition: **storage-shelf-current-op-status**

[type]

unknown|normal|over-current-critical|under-current-critical|not-supported|not-installed Possible values:
- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_current_critical" - Critical Over Current,
- "under_current_critical" - Critical Under Current,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[name]

Element definition: **storage-shelf-dimm-op-status**

[type]

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,

- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-error-type** [more]

Unknown|ACPF|Backbone|Combattery|Configuration|Current|Dimm|Expander|Fan|Module|PCM|Power|Temperature|Voltage Possible values:

- "unknown" - Unknown,
- "acpp" - Alternate control path processor error,
- "backbone" - Backbone hardware error,
- "current" - Current error,
- "fan" - Cooling fan error,
- "module" - Storage enclosure module error,
- "power" - Power supply error,
- "temperature" - Temperature error,
- "voltage" - Voltage error,
- "bootdevice" - Boot device error,
- "combattery" - Coin battery error,
- "dimm" - DIMM error,
- "expander" - Expander error,
- "pcm" - PCM error

[more]

Element definition: **storage-shell-fan-op-status** [more]

unknown|normal|off|error|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "off" - Off,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-led-status** [more]

on|off Possible values:

- "off",
- "on",
- "emsupported"

[more]

Element definition: **storage-shell-module-fw-progress** [more]

not-available|ready|in-progress|failed Possible values:

- "not_available" - Not available,
- "ready" - Ready,
- "in_progress" - In Progress,
- "failed" - Failed

[more]

Element definition: **storage-shell-module-op-status** [more]

unknown|normal|warning|error|not-installed Possible values:

- "unknown" - The operational status of the module is unknown,
- "normal" - The shelf module is operational,
- "warning" - There are warning conditions, the module is operational,
- "error" - The shelf module has one or more errors that require immediate action,
- "not_installed" - The shelf module is not installed

[more]

Element definition: **storage-shell-asm-port-speed** [more]

2.5|5.0|8.0 Possible values:

- "unknown" - Port speed is unknown,
- "2_5" - 2.5 Gb/s,
- "5_0" - 5.0 Gb/s,
- "8_0" - 8.0 Gb/s

[more]

Element definition: **storage-shell-asm-port-state** [more]

dis|off-link-disabled|off-dfl-link|link-down|no-drive Possible values:

- "unknown" - Port state is unknown,
- "dis" - Dis,
- "off_link_disabled" - Off, Link Disabled,
- "dfl_link" - Dfl, Waiting Link Layer Init,
- "link_down" - Link Down,
- "no_drive" - No Drive

[more]

Element definition: **storage-shell-asm-port-type** [more]

cpu|disk|ioh|ethernet Possible values:

- "unknown" - Port type is unknown,
- "cpu" - CPU,
- "disk" - Disk,
- "ioh" - IOH,
- "ethernet" - Ethernet

[more]

Element definition: **storage-shell-port-op-status** [more]

error|normal|off|unknown|top-bad-term|bad-over-recovery|fcp_cfg_fw_mismatch|fcp_cmmnd_fail|fcp_crc_limit_thr|fcp_data_timeout|fcp_drv_fault|fcp_drv_recycle|fcp_drv_perr|fcp_drv_serr|fcp_drv_wdt|fcp_gen|fcp_init|fcp_lip_limit_thr|fcp_lip_rate_thr|fcp_lip7|fcp_lilp|fcp_man|fcp_no_drive|fcp_other_thr|fcp_rec_lnk|fcp_rport|fcp_slot_thr|fcp_snd_limit_thr|fcp_snd_rate_thr|fcp_snd_fault|diag_transmit|inserted|loopback|status_unknown|warn_high_cfg_delta|warn_high_crc_rate|warn_high_crc_thr|warn_high_snd_rate|warn_high_snd_thr|warn_snd_limit|warn_snd_limit_thr|phy_phy_cfg_fault|phy_phy_crc_err|phy_phy_crc_err_burst|phy_phy_disparity|phy_phy_disparity_burst|phy_phy_disparity_burst2|phy_phy_disparity_burst_reserve|phy_phy_invalid_dword|phy_phy_invalid_dword_burst|phy_phy_loss_dword|phy_phy_loss_dword_burst|phy_phy_man_smp|phy_phy_reset|phy_phy_reset_burst|phy_phy_unused|phy_phy_wait_not_attach|phy_wwn_unknown|phy_unknown|phy_phy_illegal Possible values:

- "error" - Error,
- "normal" - Normal,
- "off" - Disabled,
- "unknown_status" - Status Unknown,
- "unused" - Unused,
- "top_bad_term" - Top bad term,
- "bad_over_recovery" - bad over recovery,
- "fcp_cfg_fw" - fcp_cfg_fw,
- "fcp_cmmnd_fail" - fcp_cmmnd_fail,
- "fcp_crc_limit_thr" - fcp_crc_limit_thr,
- "fcp_crc_rate_thr" - fcp_crc_rate_thr,
- "fcp_data_timeout" - fcp_data_timeout,
- "fcp_drv_fault" - fcp_drv_fault,
- "fcp_drv_recycle" - fcp_drv_recycle,
- "fcp_drv_perr" - fcp_drv_perr,
- "fcp_drv_serr" - fcp_drv_serr,
- "fcp_drv_wdt" - fcp_drv_wdt,
- "fcp_gen" - fcp_gen,
- "fcp_init" - fcp_init,
- "fcp_lip_limit_thr" - fcp_lip_limit_thr,
- "fcp_lip_rate_thr" - fcp_lip_rate_thr,
- "fcp_lip7" - fcp_lip7,
- "fcp_lilp" - fcp_lilp,
- "fcp_man" - fcp_man,
- "fcp_no_drive" - fcp_no_drive,
- "fcp_other_thr" - fcp_other_thr,
- "fcp_rec_lnk" - fcp_rec_lnk,
- "fcp_rport" - fcp_rport,
- "fcp_slot_thr" - fcp_slot_thr,
- "fcp_snd_limit_thr" - fcp_snd_limit_thr,
- "fcp_snd_rate_thr" - fcp_snd_rate_thr,
- "fcp_snd_fault" - fcp_snd_fault,
- "diag_transmit" - diag_transmit,
- "inserted" - inserted,
- "loopback" - loopback,
- "status_unknown" - Status unknown,
- "warn_high_cfg_delta" - warn_high_cfg_delta,
- "warn_high_crc_rate" - warn_high_crc_rate,
- "warn_high_crc_thr" - warn_high_crc_thr,
- "warn_high_snd_rate" - warn_high_snd_rate,
- "warn_high_snd_thr" - warn_high_snd_thr,
- "warn_snd_limit" - warn_snd_limit,
- "phy_phy_cfg_fault" - phy_phy_cfg_fault,
- "phy_phy_crc_err" - phy_phy_crc_err,
- "phy_phy_crc_err_burst" - phy_phy_crc_err_burst,
- "phy_phy_disparity" - phy_phy_disparity,
- "phy_phy_disparity_burst" - phy_phy_disparity_burst,
- "phy_phy_disparity_burst2" - phy_phy_disparity_burst2,
- "phy_phy_disparity_burst_reserve" - phy_phy_disparity_burst_reserve,
- "phy_phy_invalid_dword" - phy_phy_invalid_dword,
- "phy_phy_invalid_dword_burst" - phy_phy_invalid_dword_burst,
- "phy_phy_loss_dword" - phy_phy_loss_dword,
- "phy_phy_loss_dword_burst" - phy_phy_loss_dword_burst,
- "phy_phy_man_smp" - phy_phy_man_smp,
- "phy_phy_reset" - phy_phy_reset,
- "disabled_removed" - Disabled/Removed,
- "empty" - Empty,
- "phy_phy_change" - phy_phy_phy_change,
- "phy_phy_phy_change_burst" - phy_phy_phy_change_burst,
- "phy_phy_phy_reset" - phy_phy_phy_reset,
- "phy_phy_phy_reset_burst" - phy_phy_phy_reset_burst,
- "disabled" - Phy is disabled or unusable,
- "enabled" - Phy is enabled,
- "phy_phy_unused" - phy_phy_unused,
- "phy_phy_unknown" - phy_phy_unknown,
- "unknown" - Unknown Phy,
- "phy_phy_illegal" - Disabled/Illegal

[more]

Element definition: **storage-shell-port-type** [more]

unknown|circle|square|ssf|disk|ioh|null|unrouted|host|dom|sas12|sas22h_fxcs_to_fcb_to_a Possible values:

- "unknown" - Port type is unknown,
- "circle" - Circle,
- "square" - Square,
- "ssf" - Ssf,
- "disk" - Disk,
- "ioh" - Ioh,
- "null" - Null,
- "unrouted" - Unused,
- "host" - Host,
- "dom" - DOM,
- "sas12" - Sas 1,
- "sas22h" - Sas 2,
- "fc_to" - fc-to,
- "a_to_b" - A to B,
- "b_to_a" - B to A

[more]

Element definition: **storage-shell-psu-op-status** [more]

unknown|normal|error|dc-over-voltage|dc-under-voltage|dc-over-current|over-temperature-error|failed|off|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "off" - Off Line,
- "dc_over_voltage" - DC Over Voltage,
- "dc_under_voltage" - DC Under Voltage,
- "dc_over_current" - DC Over Current,
- "over_temperature_error" - Over Temperature,
- "failed" - Failed,
- "off" - Off,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-temperature-op-status** [more]

unknown|normal|under-temperature|over-temperature|error|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "under_temperature" - Under Temperature,
- "over_temperature" - Over Temperature,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[more]

Element definition: **storage-shell-voltage-op-status** [more]

unknown|normal|over-voltage-critical|under-voltage-critical|not-supported|not-installed|not-recoverable Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_voltage_critical" - Critical Over Voltage,
- "under_voltage_critical" - Critical Under Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed,
- "not_recoverable" - Not Recoverable

[more]

APIs in Category: **storage-shelf-firmware**

storage-shelf-firmware-file-get-iter	This is an auto generated category.

storage-shelf-firmware-file-get-iter

[top]

return the firmware file list

Input Name	Range	Type	Description
desired-attributes		storage-shelf-firmware-file optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-shelf-firmware-file optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware object. All storage-shelf-firmware objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-shelf-firmware-file[] optional	The list of attributes of storage-shelf-firmware objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-shelf-firmware objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-shelf-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
filename		string optional	Storage Firmware File Attributes: key, non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **storage-switch**

storage-switch-get
storage-switch-get-iter

These APIs enable the getting of values associated with storage switches that have been added for monitoring. These are read only APIs and hence require pre addition of switches for monitoring before these can be used. A storage switch is identified by it's name (set by the administrator and fetched over SNMP) and its information (that these APIs provide) is broadly categorised into following areas:

1. Profile Information: It includes information like switch's wwn, snmp-version, model, vendor etc. 2. Cooling Information: It includes information about switch's temperature sensors, power supply units and fans. 3. Connectivity Information: In includes information about the devices that are directly connected to the switch and the direct paths to it from the nodes. 4. Interface Information: It includes information about the switch's ports, their statistics and Small Form-factor Pluggables. 5. Configuration Information: It includes information about the VSANs and zones configured for the switch. 6. Error Information: It includes information about the errors occurred in the switch.

storage-switch-get

[top]

Get the attributes of the storage-switch.

Input Name	Range	Type	Description
desired-attributes		storage-switch-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	Name of the switch.

Output Name	Range	Type	Description
attributes		storage-switch-info	The attributes of the storage-switch.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

storage-switch-get-iter

[top]

Iterate over a list of storage-switch objects.

Input Name	Range	Type	Description
desired-attributes		storage-switch-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		storage-switch-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-switch object. All storage-switch objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		storage-switch-info[] optional	The list of attributes of storage-switch objects.
next-tag		string optional	Tag for the next call. Not present when there are no more storage-switch objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **storage-switch-info**

[top]

Storage Switch When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
blades	**[0..2^32-1]**	integer[] optional	Blades to monitor on the switch. Attributes: optional-for-create, modifiable
domain-id	**[0..2^32-1]**	integer optional	Domain ID of the switch. Attributes: non-creatable, non-modifiable
fabric-name		string optional	Name of the fabric containing this switch. Attributes: non-creatable, non-modifiable
firmware-version		string optional	Firmware Version of the switch. Attributes: non-creatable, non-modifiable
ip-address		ip-address optional	IP Address of the switch. Attributes: optional-for-create, modifiable

is-director-class		boolean optional	Is switch Director class SAN switch? Attributes: non-creatable, non-modifiable
is-local-attach		boolean optional	The switch is directly attached to the reporting cluster Attributes: non-creatable, non-modifiable
is-monitoring-enabled		boolean optional	Is monitoring enabled for the switch? Attributes: non-creatable, non-modifiable
model		string optional	Model of the switch. Attributes: non-creatable, non-modifiable
name		string optional	Name of the switch. Attributes: key, required-for-create, non-modifiable
role		storage-switch-role optional	Role of switch in the fabric. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Switch Role Unknown, • "primary" - Switch has Primary Role, • "subordinate" - Switch has Subordinate Role
status		storage-device-status optional	Status of the switch. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Device Status Unknown, • "ok" - Device Status Ok, • "error" - Device Status Erroneous
storage-switch-connectivity-list		storage-switch-connectivity-info[] optional	Information about the individual connection.
storage-switch-error-list		storage-switch-error-info[] optional	Information about the individual error.
storage-switch-fan-list		storage-switch-fan-info[] optional	Information about individual fan.
storage-switch-path-list		storage-switch-path-info[] optional	Information about the individual path.
storage-switch-port-list		storage-switch-port-info[] optional	Information about the individual port.
storage-switch-port-statistics-list		storage-switch-port-statistics-info[] optional	Information about the port statistics.
storage-switch-power-supply-unit-list		storage-switch-power-supply-unit-info[] optional	Information about individual power supply unit.
storage-switch-sfp-list		storage-switch-sfp-info[] optional	Information about the individual port sfp.
storage-switch-temperature-sensor-list		temperature-sensor-info[] optional	Information about the individual temperature sensor.
storage-switch-vsan-list		storage-switch-vsan-info[] optional	Information about the individual vsan.
		storage-switch-	

storage-switch-zone-list		zone-info[] optional	Information about the individual zones.
symbolic-name		string optional	If set, symbolic name of the switch, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable
vendor		storage-switch-vendor optional	Vendor of the switch. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "brocade" , • "cisco"
wwn		string optional	World Wide Name of the switch. Attributes: non-creatable, non-modifiable

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

Element definition: **storage-switch-connectivity-info**

[top]

Information about the individual connection.

Name	Range	Type	Description
peer-info		string optional	Information describing the peer device that is connected to the port. Attributes: non-creatable, non-modifiable
peer-port-wwn		string optional	World Wide Name of the peer port that is connected to the port. Attributes: non-creatable, non-modifiable
peer-type		storage-switch-port-	Type of peer device that is connected to the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "bridge" - Bridge,

		peer-type optional	"switch" - Switch, • "fcp_adapter" - FCP Adapter Port, • "fcvi_adapter" - FCVI Adapter Port
peer-unique-id		string optional	Unique textual representation of the peer that is connected to the port. It is UUID of the node hosting the adapter if the peer-type is fcp-initiator or fcvi-initiator, World Wide Name otherwise. Attributes: non-creatable, non-modifiable
port-mode		storage-switch-port-mode optional	Operating mode of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "auto" - Auto, • "f_port" - Fabric Port, • "fl_port" - Fabric Loop Port, • "e_port" - ISL Port, • "te_port" - Trunking ISL Port, • "u_port" - Universal Port, • "g_port" - Generic Port, • "other" - Other, • "ex_port" - Routing ISL Port, • "d_port" - Diagnostic Port, • "sim_port" - Port Simulator Port, • "ve_port" - Virtual E-Port, • "ae_port" - Analytics E-Port, • "af_port" - Analytics F-Port
port-name		string optional	Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable
port-wwn		string optional	World Wide Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-error-info**

[top]

Information about the individual error.

Name	Range	Type	Description
error-message		string optional	Text describing the error present in the switch. Attributes: non-creatable, non-modifiable
severity		storage-switch-error-severity optional	Severity of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Severity Unknown, • "notice" - Notice, • "warning" - Warning, • "error" - Error
switch-component-id	**[0..2^32-1]**	integer optional	Name of the switch component with error. Attributes: non-creatable, non-modifiable
switch-component-name		string optional	Switch Component Name List Attributes: non-creatable, non-modifiable
			Type of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values:

type		storage-switch-error-type optional	• "switch_unreachable" - Switch is Unreachable over Management Network, • "temp_above_warning_level" - Switch Temperature Above Warning Level, • "temp_above_critical_level" - Switch Temperature Above Critical Level, • "temp_below_warning_level" - Switch Temperature Below Warning Level, • "temp_below_critical_level" - Switch Temperature Below Critical Level, • "temp_sensor_status_failed" - Temperature Sensor is Failed, • "fan_status_non_operational" - Fan is Non-operational, • "power_supply_status_failed" - Power Supply Unit has Failed, • "power_above_warning_level" - Voltage Above Warning Level, • "power_above_critical_level" - Voltage Above Critical Level, • "power_below_warning_level" - Voltage Below Warning Level, • "power_below_critical_level" - Voltage Below Critical Level, • "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level, • "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level, • "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level, • "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level, • "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level, • "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level, • "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level, • "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level, • "sfp_status_failed" - SFP has Failed, • "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings, • "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable, • "fan_status_unavailable" - Fan Status is Unavailable, • "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed, • "power_supply_status_unavailable" - Power Supply Status is Unavailable, • "unknown" - Unknown, • "power_supply_off_env_other" - Power Supply is off because of unknown problem, • "power_supply_off_admin" - Power Supply is administratively off, • "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient, • "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU, • "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem,

			• "power_supply_off_env_fan" - Power Supply is powered off because of fan problems, • "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed, • "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity, • "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded, • "e_ports_down" - All E-ports are down for this blade/switch, • "snmpv3_user_not_configured" - SNMPv3 user is not configured, • "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete

Element definition: **storage-switch-fan-info**

[top]

Information about individual fan.

Name	Range	Type	Description
name		string optional	Name of the fan. Attributes: non-creatable, non-modifiable
operational-status		storage-switch-fan-oper-status optional	Operational status of the fan. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "operational" , • "failed" , • "not_operational" , • "not_present"
speed	**[0..2^32-1]**	integer optional	Speed of the fan in RPM. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-path-info**

[top]

Information about the individual path.

Name	Range	Type	Description
adapter-name		string optional	Name of the adapter in the node that to which the switch is connected. Attributes: non-creatable, non-modifiable
adapter-type		storage-switch-initiator-type optional	Node Adapter Type List Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "fcp_initiator" , • "fc_vi" , • "fcp_target"

node-name		filer-id optional	Name of the node to which the switch is connected. Attributes: non-creatable, non-modifiable
switch-port-name		string optional	Name of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable
switch-port-speed	**[0..2^32-1]**	integer optional	Speed (in Gbps) of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-port-info**

[top]

Information about the individual port.

Name	Range	Type	Description
administrative-status		storage-switch-port-admin-status optional	Administrative status of the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "enabled" , • "disabled"
bb-credit	**[0..2^32-1]**	integer optional	BB credit of the port. Attributes: non-creatable, non-modifiable
is-sfp-present		boolean optional	Is SFP present in the port? Attributes: non-creatable, non-modifiable
mode		storage-switch-port-mode optional	Operating mode of the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown, • "auto" - Auto, • "f_port" - Fabric Port, • "fl_port" - Fabric Loop Port, • "e_port" - ISL Port, • "te_port" - Trunking ISL Port, • "u_port" - Universal Port, • "g_port" - Generic Port, • "other" - Other, • "ex_port" - Routing ISL Port, • "d_port" - Diagnostic Port, • "sim_port" - Port Simulator Port, • "ve_port" - Virtual E-Port, • "ae_port" - Analytics E-Port, • "af_port" - Analytics F-Port
name		string optional	Name of the port. Attributes: non-creatable, non-modifiable
operational-speed	**[0..2^32-1]**	integer optional	Operational speed of the port in Gbps. Attributes: non-creatable, non-modifiable
operational-status		storage-switch-port-oper-status optional	Operational status of the port. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "online" , • "offline"

peer-port-wwn		string optional	Port's Peer port world wide name. Attributes: non-creatable, non-modifiable
wwn		string optional	World Wide Name of the port. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-port-statistics-info**

[top]

Information about the port statistics.

Name	Range	Type	Description
frame-error-count	**[0..2^32-1]**	integer optional	Frame error count for the port. Attributes: non-creatable, non-modifiable
name		string optional	Name of the port. Attributes: non-creatable, non-modifiable
rx-frames-count	**[0..2^32-1]**	integer optional	Number of frames received by the port. Attributes: non-creatable, non-modifiable
rx-octets-count	**[0..2^32-1]**	integer optional	Number of octets received by the port. Attributes: non-creatable, non-modifiable
tx-frames-count	**[0..2^32-1]**	integer optional	Number of frames transmitted by the port. Attributes: non-creatable, non-modifiable
tx-octets-count	**[0..2^32-1]**	integer optional	Number of octets transmitted by the port. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-power-supply-unit-info**

[top]

Information about individual power supply unit.

Name	Range	Type	Description
name		string optional	Name of power supply unit. Attributes: non-creatable, non-modifiable
operational-status		storage-switch-power-sensor-status optional	Operational status of power supply unit. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Power Status Unknown, • "normal" - Power Status Normal, • "warning" - Power Status Warning, • "faulty" - Power Sensor is faulty, • "not_present" - Power Sensor is not present
serial-number		string optional	Serial number of power supply unit. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-role**

[top]

unknown|primary|subordinate Possible values:

"unknown" - Switch Role Unknown,
- "primary" - Switch has Primary Role,
- "subordinate" - Switch has Subordinate Role

[none]

Element definition: **storage-switch-sfp-info**

[top]

Information about the individual port sfp.

Name	Range	Type	Description
part-number		string optional	Part number of SFP. Attributes: non-creatable, non-modifiable
port-name		string optional	Name of the port. Attributes: non-creatable, non-modifiable
serial-number		string optional	Serial number of SFP. Attributes: non-creatable, non-modifiable
transmitter-type		storage-switch-sfp-tx-type optional	Transmitter type of SFP. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown transmitter type., • "long_wave_laser" - Long wave laser., • "short_wave_laser" - Short wave laser., • "long_wave_laser_cost_reduced" - Cost reduced long wave laser., • "electrical" - Electrical., • "ten_gig_base_sr" - 10 gigabit base short range transceiver., • "ten_gig_base_lr" - 10 gigabit base long range transceiver., • "ten_gig_base_er" - 10 gigabit base extended range transceiver., • "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature., • "ten_gig_base_sw" - 10 gigabit base short wave transceiver., • "ten_gig_base_lw" - 10 gigabit base long wave transceiver., • "ten_gig_base_ew" - 10 gigabit base extended wave transceiver.
			Type of SFP. Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Unknown type., • "other" - Other than the types listed here., • "gbic" - Gigabit interface card., • "embedded" - Unremovable gigabit interface card., • "glm" - Gigabit link module., • "gbic_with_serial_id" - Gigabit interface card with serial ID., • "gbic_without_serial_id" - Gigabit interface card without serial ID., • "sfp_with_serial_id" - Small form factor pluggable with serial ID.,

type		storage-switch-sfp-type optional	• "sfp_without_serial_id" - Small form factor pluggable without serial ID., • "xfp" - 10 gigabit small form factor pluggable transceiver., • "x2_short" - X2 short., • "x2_medium" - X2 medium., • "x2_tall" - X2 tall., • "xpak_short" - Xpak short., • "xpak_medium" - Xpak medium., • "xpak_tall" - Xpak tall., • "xenpak" - Xenpak, • "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing., • "qsfp" - Quad small form factor pluggable., • "x2_dw_dm" - X2 dense wavelength division multiplexing., • "gbic_not_installed" - Gigabit interface card is not installed., • "small_form_factor" - Small form factor.
vendor		string optional	Vendor of SFP. Attributes: non-creatable, non-modifiable

Element definition: **storage-switch-vendor**

[top]

unknown|Brocade|Cisco Possible values:

- "unknown" ,
- "brocade" ,
- "cisco"

[none]

Element definition: **storage-switch-vsan-info**

[top]

Information about the individual vsan.

Name	Range	Type	Description
index	**[0..2^32-1]**	integer optional	Index of the VSAN. Attributes: non-creatable, non-modifiable
is-iod-set		boolean optional	Is in order delivery set for the VSAN? Attributes: non-creatable, non-modifiable
load-balancing-type		storage-switch-vsan-load-balancing-type optional	Load balancing type set in the VSAN. Attributes: non-creatable, non-modifiable Possible values: • "src_id_dest_id" - Based on source ID and destination ID., • "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID.
name		string optional	Name of the VSAN. Attributes: non-creatable, non-modifiable
			Operational status of the VSAN. Attributes: non-

operational-status		storage-switch-vsan-oper-state optional	creatable, non-modifiable Possible values: • "up" , • "down"

Element definition: **storage-switch-zone-info**

[top]

Information about the individual zones.

Name	Range	Type	Description
member-port-id		string optional	ID of the member port participating in the zone. Attributes: non-creatable, non-modifiable
member-port-name		string optional	Name of the port participating in the zone. Attributes: non-creatable, non-modifiable
member-port-switch-name		string optional	Name of the switch that contains the port participating in the zone. Attributes: non-creatable, non-modifiable
member-wwn		string optional	World wide name of the member participating in the zone. Attributes: non-creatable, non-modifiable
name		string optional	Name of the zone. Attributes: non-creatable, non-modifiable
vsan-id	**[1..4094]**	integer optional	Identifier of the VSAN to which the zone belongs. Attributes: non-creatable, non-modifiable

Element definition: **temperature-sensor-info**

[top]

Information about the individual temperature sensor.

Name	Range	Type	Description
name		string optional	Name of the temperature sensor. Attributes: non-creatable, non-modifiable
status		storage-switch-temp-sensor-status optional	Operational status of the temperature sensor. Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "normal" , • "warning" , • "critical"
temperature-reading	**[-2^31..2^31-1]**	integer optional	Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **storage-switch-error-severity**

[top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

Element definition: **storage-switch-error-type**

[top]

switch-unreachable|temp-above-warning-level|temp-above-critical-level|temp-below-warning-level|temp-below-critical-level|temp-sensor-status-failed|fan-status-non-operational|power-supply-status-failed|power-above-warning-level|power-above-critical-level|power-below-warning-level|power-below-critical-level|sfp-rx-power-above-warning-level|sfp-rx-power-above-critical-level|sfp-tx-power-above-warning-level|sfp-tx-power-above-critical-level|sfp-rx-power-below-warning-level|sfp-rx-power-below-critical-level|sfp-tx-power-below-warning-level|sfp-tx-power-below-critical-level|sfp-status-failed|vsan-invalid-frame-delivery-configuration|temp-sensor-status-unavailable|fan-status-unavailable|power-supply-inline-power-failed|power-supply-status-unavailable|unknown|power-supply-off-env-other|power-supply-off-admin|power-supply-off-denied|power-supply-off-env-power|power-supply-off-env-temp|power-supply-off-env-fan|power-supply-on-but-fan-fail|power-supply-off-cooling|power-supply2 :tor- ating|e-ports-down|snmpv3-user-not-configured|incomplete-snmp-data-refresh Possible values:

- "switch_unreachable" - Switch is Unreachable over Management Network,
- "temp_above_warning_level" - Switch Temperature Above Warning Level,
- "temp_above_critical_level" - Switch Temperature Above Critical Level,
- "temp_below_warning_level" - Switch Temperature Below Warning Level,
- "temp_below_critical_level" - Switch Temperature Below Critical Level,
- "temp_sensor_status_failed" - Temperature Sensor is Failed,
- "fan_status_non_operational" - Fan is Non-operational,
- "power_supply_status_failed" - Power Supply Unit has Failed,
- "power_above_warning_level" - Voltage Above Warning Level,
- "power_above_critical_level" - Voltage Above Critical Level,
- "power_below_warning_level" - Voltage Below Warning Level,
- "power_below_critical_level" - Voltage Below Critical Level,
- "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_status_failed" - SFP has Failed,
- "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,

"fan_status_unavailable" - Fan Status is Unavailable,
- "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed,
- "power_supply_status_unavailable" - Power Supply Status is Unavailable,
- "unknown" - Unknown,
- "power_supply_off_env_other" - Power Supply is off because of unknown problem,
- "power_supply_off_admin" - Power Supply is administratively off,
- "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient,
- "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU,
- "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem,
- "power_supply_off_env_fan" - Power Supply is powered off because of fan problems,
- "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed,
- "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity,
- "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded,
- "e_ports_down" - All E-ports are down for this blade/switch,
- "snmpv3_user_not_configured" - SNMPv3 user is not configured,
- "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete

[none]

Element definition: **storage-switch-fan-oper-status**

[top]

unknown|operational|failed|not-operational|not-present Possible values:

- "unknown" ,
- "operational" ,
- "failed" ,
- "not_operational" ,
- "not_present"

[none]

Element definition: **storage-switch-initiator-type**

[top]

unknown|FCP-Initiator|FC-VI|FCP-Target Possible values:

- "unknown" ,
- "fcp_initiator" ,
- "fc_vi" ,
- "fcp_target"

[none]

Element definition: **storage-switch-port-admin-status**

[top]

unknown|enabled|disabled Possible values:

- "unknown" ,
- "enabled" ,
- "disabled"

[none]

Element definition: **storage-switch-port-mode**

[top]

unknown|auto|F-port|FL-port|E-port|TE-port|U-port|G-port|other|EX-port|D-port|SIM-port|VE-port|AE-port|AF-port Possible values:

- "unknown" - Unknown,
- "auto" - Auto,
- "f_port" - Fabric Port,
- "fl_port" - Fabric Loop Port,
- "e_port" - ISL Port,
- "te_port" - Trunking ISL Port,
- "u_port" - Universal Port,
- "g_port" - Generic Port,
- "other" - Other,
- "ex_port" - Routing ISL Port,
- "d_port" - Diagnostic Port,
- "sim_port" - Port Simulator Port,
- "ve_port" - Virtual E-Port,
- "ae_port" - Analytics E-Port,
- "af_port" - Analytics F-Port

[none]

Element definition: **storage-switch-port-oper-status**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

Element definition: **storage-switch-port-peer-type**

[top]

unknown|bridge|switch|fcp-adapter|fcvi-adapter Possible values:

- "unknown" - Unknown,
- "bridge" - Bridge,

- "switch" - Switch,
- "fcp_adapter" - FCP Adapter Port,
- "fcvi_adapter" - FCVI Adapter Port

[none]

Element definition: **storage-switch-power-sensor-status**

[top]

unknown|normal|warning|faulty|not-present Possible values:

- "unknown" - Power Status Unknown,
- "normal" - Power Status Normal,
- "warning" - Power Status Warning,
- "faulty" - Power Sensor is faulty,
- "not_present" - Power Sensor is not present

[none]

Element definition: **storage-switch-sfp-tx-type**

[top]

unknown|long-wave-laser|short-wave-laser|long-wave-laser-cost-reduced|electrical|ten-gig-base-sr|ten-gig-base-lr|ten-gig-base-er|ten-gig-base-lx4|ten-gig-base-sw|ten-gig-base-lw|ten-gig-base-ew Possible values:

- "unknown" - Unknown transmitter type.,
- "long_wave_laser" - Long wave laser.,
- "short_wave_laser" - Short wave laser.,
- "long_wave_laser_cost_reduced" - Cost reduced long wave laser.,
- "electrical" - Electrical.,
- "ten_gig_base_sr" - 10 gigabit base short range transceiver.,
- "ten_gig_base_lr" - 10 gigabit base long range transceiver.,
- "ten_gig_base_er" - 10 gigabit base extended range transceiver.,
- "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature.,
- "ten_gig_base_sw" - 10 gigabit base short wave transceiver.,
- "ten_gig_base_lw" - 10 gigabit base long wave transceiver.,
- "ten_gig_base_ew" - 10 gigabit base extended wave transceiver.

[none]

Element definition: **storage-switch-sfp-type**

[top]

unknown|other|gbic|embedded|glm|gbic-with-serial-id|gbic-without-serial-id|sfp-with-serial-id|sfp-without-serial-id|xfp|x2-short|x2-medium|x2-tall|xpak-short|xpak-medium|xpak-tall|xenpak|sfp-dw-dm|qsfp|x2-dw-dm|gbic-not-installed|small-form-factor Possible values:

- "unknown" - Unknown type.,
- "other" - Other than the types listed here.,

- "gbic" - Gigabit interface card.,
- "embedded" - Unremovable gigabit interface card.,
- "glm" - Gigabit link module.,
- "gbic_with_serial_id" - Gigabit interface card with serial ID.,
- "gbic_without_serial_id" - Gigabit interface card without serial ID.,
- "sfp_with_serial_id" - Small form factor pluggable with serial ID.,
- "sfp_without_serial_id" - Small form factor pluggable without serial ID.,
- "xfp" - 10 gigabit small form factor pluggable transceiver.,
- "x2_short" - X2 short.,
- "x2_medium" - X2 medium.,
- "x2_tall" - X2 tall.,
- "xpak_short" - Xpak short.,
- "xpak_medium" - Xpak medium.,
- "xpak_tall" - Xpak tall.,
- "xenpak" - Xenpak,
- "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing.,
- "qsfp" - Quad small form factor pluggable.,
- "x2_dw_dm" - X2 dense wavelength division multiplexing.,
- "gbic_not_installed" - Gigabit interface card is not installed.,
- "small_form_factor" - Small form factor.

[none]

Element definition: **storage-switch-temp-sensor-status**

[top]

unknown|normal|warning|critical Possible values:

- "unknown" ,
- "normal" ,
- "warning" ,
- "critical"

[none]

Element definition: **storage-switch-vsan-load-balancing-type**

[top]

src-id-dest-id|src-id-dest-id-ox-id Possible values:

- "src_id_dest_id" - Based on source ID and destination ID.,
- "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID.

[none]

Element definition: **storage-switch-vsan-oper-state**

[top]

up|down Possible values:

- "up" ,
- "down"

[none]

APIs in Category: **system**

external-cache-get
external-cache-modify
system-api-get-elements
system-api-list
system-api-list-types
system-available-replication-transfers
system-cache-mirror-disable
system-cache-mirror-enable
system-cache-mirror-get
system-cache-mirror-get-iter
system-get-info
system-get-node-info-iter
system-get-ontapi-version
system-get-vendor-info
system-get-version
system-hypervisor-host-config-create
system-hypervisor-host-config-destroy
system-hypervisor-host-config-get
system-hypervisor-host-config-get-iter
system-hypervisor-host-config-modify
system-hypervisor-snmpv3-config-create
system-hypervisor-snmpv3-config-destroy
system-hypervisor-snmpv3-config-get
system-hypervisor-snmpv3-config-get-iter
system-hypervisor-snmpv3-config-modify
system-hypervisor-uplink-mapping-create
system-hypervisor-uplink-mapping-destroy
system-hypervisor-uplink-mapping-get
system-hypervisor-uplink-mapping-modify
system-image-external-package-delete
system-image-external-package-get-iter
system-image-fetch-package
system-image-get-iter
system-image-modify
system-image-package-delete
system-image-package-get-iter
system-image-update
system-image-update-get-abort
system-image-update-progress-get
system-node-discovery-get-iter
system-node-get
system-node-get-iter
system-node-modify
system-node-power-cycle
system-node-power-get
system-node-power-off
system-node-power-on
system-node-reboot
system-node-rename

system-node-reset
system-node-shutdown
system-services-web-get
system-services-web-node-get
system-services-web-node-get-iter
system-set-new-ontap-version-downloaded
system-set-node-stable-after-startup
system-user-capability-get-iter

external-cache-get

[top]

Get the cluster-wide EC QoS settings.

Input Name	Range	Type	Description
desired-attributes		external-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		external-cache-info	The attributes of the external-cache.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

external-cache-modify

[top]

Modify the existing cluster-wide EC QoS settings.

Input Name	Range	Type	Description
is-enabled		boolean optional	Is Enabled?
is-hya-enabled		boolean optional	Is HyA Caching Enabled?
is-rewarm-enabled		boolean optional	Is Rewarm On?
node		node-name	Node
pcs-size	**[0..2^32-1]**	integer optional	PCS Size

Errno	Description

EOBJECTNOTFOUND	
EINTERNALERROR	

system-api-get-elements

[top]

get elements for specified apis

Input Name	Range	Type	Description
api-list		api-list-info[]	list of apis to retrieve

Output Name	Range	Type	Description
api-entries		system-api-entry-info[]	

Errno	Description
EAPIERROR	

Vfiler-enabled
Yes

system-api-list

[top]

get list of apis. This returns the names only - to get the parameter info, use system-api-get-elements

Output Name	Range	Type	Description
apis		system-api-info[]	

Errno	Description
EAPIERROR	

Vfiler-enabled
Yes

system-api-list-types

[top]

get list and description of typedefs

Output Name	Range	Type	Description
type-entries		system-api-type-entry-info[]	

Vfiler-enabled
Yes

system-available-replication-transfers

[top]

Provide a mechanism to calculate the number of replication operations that could be started. Returns the number of replication operations that could be started for each replication type. Another output is the maximum number of transfers for each replication type.

Output Name	Range	Type	Description
replication-transfer-table		replication-transfer-info[]	Table with entries mapping each replication operation to number of transfers which could be started.

Vfiler-enabled
Yes

system-cache-mirror-disable

[top]

Disable Cache Mirror

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-cache-mirror-enable

[top]

Enable Cache Mirror

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-cache-mirror-get

[top]

Get the attributes of Cache Mirror Settings.

Input Name	Range	Type	Description
desired-attributes		cache-mirror optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
		node-	

node		name	Node

Output Name	Range	Type	Description
attributes		cache-mirror	The attributes of the system-cache-mirror.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-cache-mirror-get-iter

[top]

Iterate over a list of Cache Mirror Settings.

Input Name	Range	Type	Description
desired-attributes		cache-mirror optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		cache-mirror optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-cache-mirror object. All system-cache-mirror objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		cache-mirror[] optional	The list of attributes of system-cache-mirror objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-cache-mirror objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-get-info

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included.

Output Name	Range	Type	Description

system-info		system-info	

Vfiler-enabled
Yes

system-get-node-info-iter

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included. System refers to a node in a cluster.

Input Name	Range	Type	Description
desired-attributes		system-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		system-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-info object. All system-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-info[] optional	The list of attributes of system-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-info objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-get-ontapi-version

[top]

Obtain the current ONTAPI major and minor versions.

Output Name	Range	Type	Description
major-version		integer	Current ONTAPI major version supported by this appliance.
minor-version		integer	Current ONTAPI minor version supported by this appliance.

node-ontapi-details		node-ontapi-detail-info[] optional	List of nodes along with the ONTAPI versions supported by each of them.

Vfiler-enabled
Yes

system-get-vendor-info

[top]

Obtain the Data ONTAP vendor information.

Output Name	Range	Type	Description
autosupport-email		string	Vendor's AutoSupport e-mail target.
autosupport-url		string	Vendor's AutoSupport URL target.
complete-name		string	Complete name of vendor.
customer-support-contact		string	Vendor's technical support contact information.
customer-support-name		string	Name of vendor's customer support organization.
information-url		string	Vendor's AutoSupport information URL.
ontap-oid-prefix		string	Vendor's starting SNMP OID prefix for Data ONTAP. The suffix that follows is the storage system MIB. For example, ".1.3.6.1.4.1.789". To obtain the filer's model name, one would concatenate the OID prefix and ".1.1.5.0" from the storage system MIB.
product-url		string	Vendor's installed product information URL.
short-name		string	Vendor's short name.

Errno	Description
EAPIERROR	

Vfiler-enabled
Yes

system-get-version

[top]

Obtain the Data ONTAP version.

Output Name	Range	Type	Description
build-timestamp		integer optional	Time of build creation, in seconds since January 1, 1970, of the image running on the appliance or of the build whose Data ONTAP version is lowest across the cluster. This field is available in Data ONTAP 8.1 or

			later.
is-clustered		boolean	If true, indicates Data ONTAP Cluster-Mode, else Data ONTAP 7-Mode. This field is available in Data ONTAP 8.1 or later.
node-kernel-info-details		system-node-kernel-info[] optional	List of all diagnostics and firmware related files of a node.
node-version-details		node-version-detail-info[] optional	List of node names along with the Data ONTAP version running on each node. This field is returned only if the cluster is currently operating with more than one version of Data ONTAP.
version		string	Current Data ONTAP version running on the appliance. If the cluster is currently operating with more than one version of Data ONTAP, then the lowest version of all is returned.
version-tuple		system-version-tuple optional	The Data ONTAP version tuple, lowest across the cluster i.e. the effective cluster version. This field is available in Data ONTAP 8.1 or later.

Vfiler-enabled
Yes

system-hypervisor-host-config-create

[top]

Create the hypervisor host config.

Input Name	Range	Type	Description
address-ipv4		ip-address	Address
node		filer-id	Node
port-ipv4	**[0..2^32-1]**	integer optional	UDP Port
return-record		boolean optional	If set to true, returns the Hypervisor Host Config on successful creation. Default: false

Output Name	Range	Type	Description
result		system-hypervisor-host-config-info optional	The Hypervisor Host Config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

system-hypervisor-host-config-destroy

[top]

Destroy the hypervisor host config.

Input Name	Range	Type	Description
node		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-host-config-get

[top]

Get the attributes of the hypervisor host config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-host-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node

Output Name	Range	Type	Description
attributes		system-hypervisor-host-config-info	The attributes of the Hypervisor Host Config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-host-config-get-iter

[top]

Iterate over the attributes of the hypervisor host config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-host-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-hypervisor-host-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Hypervisor Host Config object. All Hypervisor Host Config objects matching this query up to 'max-records' will be returned.
			Specify the tag from the last call. It is usually not specified for

tag		string optional	the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-hypervisor-host-config-info[] optional	The list of attributes of Hypervisor Host Config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Hypervisor Host Config objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-hypervisor-host-config-modify

[top]

Modify the hypervisor host config.

Input Name	Range	Type	Description
address-ipv4		ip-address optional	Address
node		filer-id	Node
port-ipv4	**[0..2^32-1]**	integer optional	UDP Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-snmpv3-config-create

[top]

Create the hypervisor snmpv3 config.

Input Name	Range	Type	Description
auth-password		string optional	Authentication Password
auth-protocol		string optional	Authentication Protocol
engine-id		string optional	Engine ID
node		filer-id	Node
priv-protocol		string optional	Private Protocol

return-record		boolean optional	If set to true, returns the Hypervisor SNMPv4 Config on successful creation. Default: false
snmp-trapport	**[0..2^32-1]**	integer optional	SNMP Trap Port
username		string	Username

Output Name	Range	Type	Description
result		system-hypervisor-snmpv3-config-info optional	The Hypervisor SNMPv4 Config created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

system-hypervisor-snmpv3-config-destroy

[top]

Destroy the hypervisor snmpv3 config.

Input Name	Range	Type	Description
node		filer-id	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-snmpv3-config-get

[top]

Get the attributes of the hypervisor snmpv3 config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-snmpv3-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node

Output Name	Range	Type	Description
attributes		system-hypervisor-snmpv3-config-info	The attributes of the Hypervisor SNMPv4 Config.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-snmpv3-config-get-iter

[top]

Iterate over the attributes of the hypervisor snmpv3 config.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-snmpv3-config-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		system-hypervisor-snmpv3-config-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the Hypervisor SNMPv4 Config object. All Hypervisor SNMPv4 Config objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-hypervisor-snmpv3-config-info[] optional	The list of attributes of Hypervisor SNMPv4 Config objects.
next-tag		string optional	Tag for the next call. Not present when there are no more Hypervisor SNMPv4 Config objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-hypervisor-snmpv3-config-modify

[top]

Modify the hypervisor snmpv3 config.

Input Name	Range	Type	Description
auth-password		string optional	Authentication Password
auth-protocol		string optional	Authentication Protocol
engine-id		string optional	Engine ID
node		filer-id	Node

priv-protocol		string optional	Private Protocol
snmp-trapport	**[0..2^32-1]**	integer optional	SNMP Trap Port
username		string optional	Username

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-uplink-mapping-create

[top]

Create the hypervisor uplink mapping.

Input Name	Range	Type	Description
node		filer-id	Node
port		net-port	Port
return-record		boolean optional	If set to true, returns the Hypervisor Uplink Mapping on successful creation. Default: false
uplinks		string[]	Uplink Mapping

Output Name	Range	Type	Description
result		system-hypervisor-uplink-mapping-info optional	The Hypervisor Uplink Mapping created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	

system-hypervisor-uplink-mapping-destroy

[top]

Destroy the hypervisor uplink mapping.

Input Name	Range	Type	Description
node		filer-id	Node
port		net-port	Port

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-uplink-mapping-get

[top]

Get the attributes of a hypervisor uplink mapping.

Input Name	Range	Type	Description
desired-attributes		system-hypervisor-uplink-mapping-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		filer-id	Node
port		net-port	Port

Output Name	Range	Type	Description
attributes		system-hypervisor-uplink-mapping-info	The attributes of the Hypervisor Uplink Mapping.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-hypervisor-uplink-mapping-modify

[top]

Modify the hypervisor uplink mapping.

Input Name	Range	Type	Description
node		filer-id	Node
port		net-port	Port
uplinks		string[] optional	Uplink Mapping

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-external-package-delete

[top]

Delete file on external device

Input Name	Range	Type	Description
device		externaldevice	Device Possible values: • "usb0" - external USB port 0, • "usb1" - external USB port 1

node		string	Node
package		string	File Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-external-package-get-iter

[top]

Display file listing on external device

Input Name	Range	Type	Description
desired-attributes		system-image-external-package-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-image-external-package-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-image-external-package-attributes[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-image-fetch-package

[top]

Fetch a file from a URL. This API will return immediately. The progress can be monitored using the

'system-image-update-progress-get' API.

Input Name	Range	Type	Description
node		string	Node
package		string	Package URL
rename-package		string optional	Rename the File
replace-package		boolean optional	Replace the Local File

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-get-iter

[top]

Display software image information

Input Name	Range	Type	Description
desired-attributes		system-image-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-image-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-image-attributes[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-image-modify

[top]

Modify software image configuration

Input Name	Range	Type	Description
image		string	Image Name
is-default		boolean optional	Is Default Image
node		string	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-package-delete

[top]

Delete a software package

Input Name	Range	Type	Description
node		string	Node
package		string	Package File Name

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-package-get-iter

[top]

Display software information for all packages

Input Name	Range	Type	Description
desired-attributes		system-image-package-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-image-package-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
		system-	

attributes-list		image-package-attributes[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-image-update

[top]

Perform software image upgrade/downgrade. This API will return immediately. The progress can be monitored using the 'system-image-update-progress-get' API.

Input Name	Range	Type	Description
ignore-compatibility		boolean optional	Ignore Version Compatibility Checking
ignore-offline		boolean optional	Ignore Offline Aggregates and Volumes
node		string	Node
package		string	Package URL
rename-package		string optional	Rename the File
replace		string optional	Image to Replace
replace-package		boolean optional	Replace the Local File
setdefault		boolean optional	Set Newly Updated Image as Default
validate-only		boolean optional	Validate the Package before Installation

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-update-get-abort

[top]

Abort software image update or get operation

Input Name	Range	Type	Description
node		node-name	Node

Errno	Description

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-image-update-progress-get

[top]

Show progress information for current or previous update

Input Name	Range	Type	Description
node		node-name	Node

Output Name	Range	Type	Description
exit-message		string optional	Exit Message
exit-status		string optional	Exit Status
last-message		string optional	Internal message
phase		string optional	Phase
run-status		string optional	Run Status

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-discovery-get-iter

[top]

Get the discovered nodes sequentially. This returns all unconfigured nodes and all cluster nodes found within the local cluster network.

Input Name	Range	Type	Description
desired-attributes		system-node-discovery optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		system-node-discovery optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node-discovery object. All system-node-discovery objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		system-node-discovery[] optional	The list of attributes of system-node-discovery objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-node-discovery objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-node-get

[top]

Obtain the node information when the node is part of a cluster. Information returned includes details like location, serial-number, asset tag, uptime, vendor name etc.

Input Name	Range	Type	Description
desired-attributes		node-details-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The textual name of a node.

Output Name	Range	Type	Description
attributes		node-details-info	The attributes of the system-node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-get-iter

[top]

Obtain the node information when the node is a part of the cluster in an iteration.

Input Name	Range	Type	Description
desired-attributes		node-details-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		node-details-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node object. All system-node objects matching this query up to 'max-records' will be

		optional	returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		node-details-info[] optional	The list of attributes of system-node objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system-node objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-node-modify

[top]

Modify the node information when the node is a part of the cluster.

Input Name	Range	Type	Description
is-diff-svcs		boolean optional	Is this node part of differentiated services storage infrastructure.
node		node-name	The textual name of a node.
node-asset-tag		string optional	The asset tag of the node.
node-location		string optional	The physical location of the node. For example, Sunnyvale.
node-owner		string optional	The owner of the node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-cycle

[top]

Remote Node Power Cycle

Input Name	Range	Type	Description
node		node-name	Node which needs to be power cycled

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-get

[top]

Get power status information about a node

Input Name	Range	Type	Description
desired-attributes		system-node-power-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Target node for the operation

Output Name	Range	Type	Description
attributes		system-node-power-info	The attributes of the system-node-power.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-off

[top]

Remote Node Power Off

Input Name	Range	Type	Description
node		node-name	Node which needs to be powered off

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-power-on

[top]

Remote Node Power On

Input Name	Range	Type	Description
node		node-name	Node which needs to be powered on

Errno	Description
EOBJECTNOTFOUND	

EINTERNALERROR	

system-node-reboot

[top]

Reboot the specified node. Only an admin can reboot the node. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

Input Name	Range	Type	Description
ignore-quorum-warnings		boolean optional	Skip quorum check before reboot.
ignore-strict-sync-warnings		boolean optional	Skip SnapMirror Synchronous Strict Sync check before reboot.
is-dump		boolean optional	If 'true', a core dump will be created. Default value is 'true'.
is-inhibit-takeover		boolean optional	If 'true', storage takeover by partner will be disallowed. Default value is 'true'.
is-skip-lif-migration-before-reboot		boolean optional	If 'true', skip migrating LIFs away from this node prior to reboot. Default value is 'true'.
node		string	Node to reboot.
reason		string optional	Reason for reboot.

Errno	Description
EOBJECTNOTFOUND	
EAPIPRIVILEGE	
EINTERNALERROR	
E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN	
E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM	
E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM	
E_FOLLOW_UPGRADE_PROCEDURE	
E_RESET_DEFAULT_IMAGE_UPGRADE	
E_RESET_DEFAULT_IMAGE_REVERT	

system-node-rename

[top]

Rename the specified node to a new name specified by 'new-name'

Input Name	Range	Type	Description
new-name		string	New Name
node		node-name	The textual name of a node.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-reset

[top]

Reset node using selected BIOS firmware

Input Name	Range	Type	Description
firmware		bios-fw-type optional	BIOS Firmware to use on reboot
node		node-name	Node to be reset

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-node-shutdown

[top]

Shut down a node. Only an admin can initiate a node shutdown. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

Input Name	Range	Type	Description
ignore-quorum-warnings		boolean optional	Skip quorum check before halt.
ignore-strict-sync-warnings		boolean optional	Skip SnapMirror Synchronous Strict Sync check before reboot.
is-dump		boolean optional	If 'true', a core dump will be created. Default value is 'true'.
is-inhibit-takeover		boolean optional	If 'true', storage takeover by partner will be disallowed. Default value is 'true'.
is-skip-lif-migration-before-shutdown		boolean optional	If 'true', skip migrating LIFs away from this node prior to shutdown. Default value is 'true'.
node		string	Node to shutdown.
reason		string optional	Reason for shutdown.

Errno	Description
EOBJECTNOTFOUND	
EAPIPRIVILEGE	
EINTERNALERROR	
E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN	
E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM	
E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM	
E_FOLLOW_UPGRADE_PROCEDURE	
E_RESET_DEFAULT_IMAGE_UPGRADE	
E_RESET_DEFAULT_IMAGE_REVERT	

[top]

system-services-web-get

Get the configuration for the web server for Data ONTAP web services

Input Name	Range	Type	Description
desired-attributes		system-services-web-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		system-services-web-info	The attributes of the system.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-services-web-node-get

[top]

Get the status of the web server for Data ONTAP web services

Input Name	Range	Type	Description
desired-attributes		system-services-web-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	Node

Output Name	Range	Type	Description
attributes		system-services-web-node-info	The attributes of the system.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

system-services-web-node-get-iter

[top]

Get the status of the web server for Data ONTAP web services

Input Name	Range	Type	Description
desired-attributes		system-services-web-node-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		system-services-web-node-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		system-services-web-node-info[] optional	The list of attributes of system objects.
next-tag		string optional	Tag for the next call. Not present when there are no more system objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

system-set-new-ontap-version-downloaded

[top]

Called when a new version of Data ONTAP is downloaded making a non-disruptive upgrade possible.

system-set-node-stable-after-startup

[top]

This function is called by the GX management layer once a node has booted up to the point where it is operational. This "notification" allows the dblade to signal its partner that it is ready to receive additional aggregates to complete a send-home.

Errno	Description
EINTERNALERROR	

system-user-capability-get-iter

[top]

Returns the objects and their operations which are permitted to user who called this API.

Input Name	Range	Type	Description
desired-attributes		capability-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		capability-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role object. All security login role objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		capability-info[] optional	The list of attributes of security login role objects.
next-tag		string optional	Tag for the next call. Not present when there are no more security login role objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

Element definition: **api-list-info**

[top]

name of the API

[none]

Element definition: **bios-fw-type**

[top]

Choices for the two BIOS firmware images available for booting the system Possible values:

- "primary" - BIOS Firmware which the system boots from by default,
- "backup" - BIOS Firmware which the system boots from if primary fails,
- "current" - BIOS Firmware which the system is currently booted from

[none]

Element definition: **cache-mirror**

[top]

Cache Mirror typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
enabled		boolean optional	Is Cache mirror enabled? Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable

Element definition: **capability-info**

[top]

Capability information about the object and their operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
object-name		string optional	Object name, for e.g., 'volume', 'storage.aggregate', 'vserver.nfs' etc.. Attributes: key, non-creatable, non-modifiable
operation-list		operation-info[] optional	Operation details. Contains the operation name, command path and API name.

Element definition: **external-cache-info**

[top]

External Cache Settings typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-enabled		boolean optional	Is Enabled? Attributes: non-creatable, modifiable
is-hya-enabled		boolean optional	Is HyA Caching Enabled? Attributes: non-creatable, modifiable
is-rewarm-enabled		boolean optional	Is Rewarm On? Attributes: non-creatable, modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
pcs-size	**[0..2^32-1]**	integer optional	PCS Size Attributes: non-creatable, modifiable

Element definition: **externaldevice**

[top]

usb0|usb1 Possible values:

- "usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **node-details-info**

[top]

Contains information about a specific node When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cpu-busytime	**[0..2^32-1]**	integer optional	The time (in hundredths of a second) that the CPU has been doing useful work since the last boot. Attributes: non-creatable, non-modifiable
cpu-firmware-release		string optional	Firmware release number. Defined by the CPU manufacturer. Attributes: non-creatable, non-modifiable
env-failed-fan-count	**[0..2^32-1]**	integer optional	Count of the number of chassis fans which are not operating within the recommended RPM range. Attributes: non-creatable, non-modifiable
env-failed-fan-message		string optional	Text message describing the current condition of chassis fans. This is useful only if env-failed-fan-count is not zero. Attributes: non-creatable, non-modifiable
env-failed-power-supply-count	**[0..2^32-1]**	integer optional	Number of failed power supply units. Attributes: non-creatable, non-modifiable
env-failed-power-supply-message		string optional	Text message describing the state of any power supplies which are currently degraded. This is useful only if env-failed-power-supply-count is not zero. Attributes: non-creatable, non-modifiable
env-over-temperature		boolean optional	An indication of whether the hardware is currently operating outside of its recommended temperature range. The hardware will shutdown if the temperature exceeds critical thresholds. Attributes: non-creatable, non-modifiable
is-all-flash-optimized		boolean optional	Is this node configured to only support SSD drives. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable
is-all-flash-select-optimized		boolean optional	Is this node configured to only support SSD drives for Select. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable
is-capacity-optimized		boolean optional	Is this node All Flash and Capacity Optimized. Attributes: non-creatable, non-modifiable
is-cloud-optimized		boolean optional	Is this node configured to support cloud services. Attributes: non-creatable, non-modifiable
is-diff-svcs		boolean optional	Is this node part of differentiated services storage infrastructure. Attributes: non-creatable, modifiable
is-epsilon-node		boolean optional	You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time.

			A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable
is-node-cluster-eligible		boolean optional	This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable
is-node-healthy		boolean optional	This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable
is-perf-optimized		boolean optional	Is this node All Flash and Performance Optimized. Attributes: non-creatable, non-modifiable
maximum-aggregate-size		size optional	The maximum supported aggregate size in bytes. Attributes: non-creatable, non-modifiable
maximum-number-of-volumes	**[0..2^32-1]**	integer optional	The maximum number of flexible volumes supported on this node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration. Attributes: non-creatable, non-modifiable
maximum-volume-size		size optional	The maximum supported volume size in bytes. Attributes: non-creatable, non-modifiable
node		node-name optional	The textual name of a node. Attributes: key, non-creatable, non-modifiable
node-asset-tag		string optional	The asset tag of the node. Attributes: non-creatable, modifiable
node-location		string optional	The physical location of the node. For example, Sunnyvale. Attributes: non-creatable, modifiable
node-model		string optional	The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable
node-nvram-id		integer optional	Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable
node-owner		string optional	The owner of the node. Attributes: non-creatable, modifiable
node-serial-number		string optional	The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable
node-storage-configuration		storage-configuration-state-enum optional	The storage configuration in the system. The possible values are: • 'mixed_path' • 'single_path' • 'multi_path' • 'quad_path' • 'single_path_ha' • 'multi_path_ha' • 'mixed_path_ha' • 'quad_path_ha' • 'unknown' Attributes: non-creatable, non-modifiable Possible values: • "unknown" , • "single_path" , • "multi_path" , • "mixed_path" , • "single_path_ha" , • "multi_path_ha" , • "mixed_path_ha" ,

			"quad_path" , • "quad_path_ha"
node-system-id		string optional	The system Id of the node. This is defined by the vendor. Generally, it is a string of numbers. Attributes: non-creatable, non-modifiable
node-uptime	**[0..2^32-1]**	integer optional	Total time, in seconds, that the node has been up. Attributes: non-creatable, non-modifiable
node-uuid		string optional	The universally unique identifier for the node. It is a 36-character string composed of 32 hexadecimal characters. For example, '542366ea-a024-11dd-9caa-7302e474c5ae'. Attributes: non-creatable, non-modifiable
node-vendor		string optional	The hardware vendor of the node. Attributes: non-creatable, non-modifiable
nvram-battery-status		nvram-battery-status-enum optional	Status of the NVRAM battery. The possible values that could be returned: • 'battery_ok' • 'battery_partially_discharged' • 'battery_fully_discharged ' • 'battery_not_present' • 'battery_near_end_of_life' • 'battery_at_end_of_life' • 'battery_unknown' • 'battery_over_charged' • 'battery_fully_charged' Attributes: non-creatable, non-modifiable Possible values: • "battery_ok" , • "battery_partially_discharged" , • "battery_fully_discharged" , • "battery_not_present" , • "battery_near_end_of_life" , • "battery_at_end_of_life" , • "battery_unknown" , • "battery_over_charged" , • "battery_fully_charged"
product-version		string optional	Product Version Attributes: non-creatable, non-modifiable
sas2-sas3-mixed-stack-support		sas2-sas3-mixed-stack-support optional	Support of mixed SAS2/SAS3 stacks. Attributes: non-creatable, non-modifiable Possible values: • "all" - SAS2/SAS3 mixing supported in all stacks, • "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks, • "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks, • "none" - SAS2/SAS3 mixing not supported
vm-system-disks		vm-system-disks optional	Contains virtual machine system disk backing info
vmhost-info		vmhost-info optional	Contains virtual machine host information

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **node-ontapi-detail-info**

[top]

The node names along with the ONTAPI version on the respective node.

Name	Range	Type	Description
major-version		integer	Current ONTAPI major version supported by this node. Range: [0..2^31-1].
minor-version		integer	Current ONTAPI minor version supported by this node. Range: [0..2^31-1].
node-name		string	Name of the node.
node-uuid		string	UUID, Universal Unique IDentifier, of the node.

Element definition: **node-version-detail-info**

[top]

The node names along with the ONTAP version on the respective node.

Name	Range	Type	Description
build-timestamp		integer optional	Time of build creation, in seconds since January 1, 1970, of the image running on the node. This field is available in Data ONTAP 8.1 or later.
node-name		string	Name of the node.
node-uuid		string	UUID, Universal Unique IDentifier, of the node.
version		string	Data ONTAP version running on the node.

Element definition: **replication-transfer-info**

[top]

Structure of each entry in the transfer accounting table

Name	Range	Type	Description
replication-available-transfers		integer	Number of transfers that could be started at this point in time, if we choose only this particular replication type. Range:[0..2^32-1]
replication-maximum-transfers		integer	Maximum number of transfers that can be started, if we choose only this particular replication type. Range:[1..2^32-1]
			Type of replication operation. Qtree-snapmirror/SnapVault have two core data transfer mechanisms which they can utilize for data transfer. One is the legacy engine and the other is the newer engine. By default Data

replication-type		string	ONTAP enables the new engine. The user can choose to flip between the new engine and legacy engine. options-get api with an input of replication.logical.transfer_limits can be used to detect the type of engine. "current" implies a new engine while "previous" implies the legacy engine. Open Systems SnapVault (OSSV) always uses the legacy engine for transfers. Legacy volume-snapmirror limits are used when data resides on a traditional volume. Possible values of a replication operation are • "legacy_qtree_snapmirror_source"; • "legacy_qtree_snapmirror_destination"; • "qtree_snapmirror_source"; • "qtree_snapmirror_destination"; • "legacy_volume_snapmirror_source"; • "legacy_volume_snapmirror_destination"; • "volume_snapmirror_source"; • "volume_snapmirror_destination"; • "legacy_snapvault_source"; • "legacy_snapvault_destination"; • "snapvault_source"; • "snapvault_destination"; • "sync_snapmirror_source"; • "sync_snapmirror_destination"; • "volume_copy_source"; • "volume_copy_destination";

Element definition: **system-api-entry-info**

[top]

list of api names and their elements

Name	Range	Type	Description
api-elements		system-api-element-info[]	list of api elements
name		string	api name

Element definition: **system-api-info**

[top]

api information

Name	Range	Type	Description
is-streaming		boolean optional	does api stream data?
license		string optional	license needed if any
name		string	name of api

Element definition: **system-api-type-entry-info**

[top]

list of type names and their elements

Name	Range	Type	Description
name		string	type name
type-elements		system-api-element-info[]	list of type elements

Element definition: **system-hypervisor-host-config-info**

[top]

Hypervisor Host Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
address-ipv4		ip-address optional	Address Attributes: required-for-create, modifiable
node		filer-id optional	Node Attributes: key, required-for-create, non-modifiable
port-ipv4	**[0..2^32-1]**	integer optional	UDP Port Attributes: optional-for-create, modifiable

Element definition: **system-hypervisor-snmpv3-config-info**

[top]

Hypervisor SNMP V3 Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
auth-password		string optional	Authentication Password Attributes: optional-for-create, modifiable
auth-protocol		string optional	Authentication Protocol Attributes: optional-for-create, modifiable
engine-id		string optional	Engine ID Attributes: optional-for-create, modifiable
node		filer-id optional	Node Attributes: key, required-for-create, non-modifiable

priv-protocol		string optional	Private Protocol Attributes: optional-for-create, modifiable
snmp-trapport	**[0..2^32-1]**	integer optional	SNMP Trap Port Attributes: optional-for-create, modifiable
username		string optional	Username Attributes: required-for-create, modifiable

Element definition: **system-hypervisor-uplink-mapping-info**

[top]

Hypervisor Uplink Mapping Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		filer-id optional	Node Attributes: key, required-for-create, non-modifiable
port		net-port optional	Port Attributes: key, required-for-create, non-modifiable
uplinks		string[] optional	Uplink Mapping Attributes: required-for-create, modifiable

Element definition: **system-image-attributes**

[top]

These attributes describe or modify the configuration of the nodes's boot images. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
image		string optional	Image Name Attributes: key, non-creatable, non-modifiable
install-time		datetime optional	Install Date Attributes: non-creatable, non-modifiable
is-current		boolean optional	Is Current Image Attributes: non-creatable, non-modifiable
is-default		boolean optional	Is Default Image Attributes: non-creatable, modifiable

kernel-path		string optional	Kernel Image Path Attributes: non-creatable, non-modifiable
node		string optional	Node Attributes: key, non-creatable, non-modifiable
rootfs-path		string optional	Root Filesystem Image Path Attributes: non-creatable, non-modifiable
version		string optional	Software Version Attributes: non-creatable, non-modifiable

Element definition: **system-image-external-package-attributes**

[top]

These attributes provide details about the software packages available on the external device connected to the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
device		externaldevice optional	Device Attributes: key, optional-for-create, non-modifiable Possible values: • "usb0" - external USB port 0, • "usb1" - external USB port 1
node		string optional	Node Attributes: key, non-creatable, non-modifiable
package		string optional	File Name Attributes: key, optional-for-create, non-modifiable

Element definition: **system-image-package-attributes**

[top]

These attributes provide details about the software packages available on the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		string optional	Node Attributes: key, non-creatable, non-modifiable

package		string optional	Package File Name Attributes: key, optional-for-create, non-modifiable

Element definition: **system-info**

[top]

Information about the system. Here system refers to a cluster node when running in cluster mode.

Name	Range	Type	Description
backplane-part-number		string optional	Part number of the backplane.
backplane-revision		string optional	Revision of the backplane part number.
backplane-serial-number		string optional	Backplane serial number.
board-speed		integer	Speed of the system board in mega Hertz.
board-type		string	Type of the system board. This is defined by the vendor
controller-address		string optional	The location of the controller in a multi-controller platform. Defined by the platform layer. Possible values: A,B,C,...
cpu-firmware-release		string optional	Firmware release number. Defined by the CPU manufacturer.
cpu-microcode-version		string	cpu's microcode version. Defined by the CPU manufacturer.
cpu-part-number		string optional	CPU's part number. Defined by the CPU manufacturer.
cpu-processor-id		string optional	Processor's ID. Defined by the CPU manufacturer.
cpu-processor-type		string optional	Processor's Type. Defined by the CPU manufacturer.
cpu-revision		string optional	CPU's part number revision. Defined by the CPU manufacturer.
cpu-serial-number		string optional	CPU's serial number. Defined by the CPU manufacturer.
maximum-aggregate-size	**[0..2^64-1]**	integer optional	The platform's maximum aggregate size in bytes.
maximum-flexible-volume-count	**[0..2^32-1]**	integer optional	The platform's maximum number of flexible volumes supported on this node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration.
maximum-flexible-volume-size	**[0..2^64-1]**	integer optional	The platform's maximum flexible volume size in bytes.
memory-size		integer	Memory size in megabytes. (1024*1024).
number-of-processors		integer	Number of processors in the appliance.
partner-system-id		string optional	Partner's system ID. Displayed in a cluster environment. A string of 10 characters.

partner-system-name		string optional	Partner's system name. Displayed in a cluster environment. Defined in the partner's setup.
partner-system-serial-number		string optional	Partner System serial number. Currently a string of numbers.
prod-type		string optional	Will be set to "V-Series", "gfiler", "gateway" or "FAS" depending upon the vendor providing the raw storage.
storage-configuration		string optional	Storage configuration status for the controller. The possible values are: • "mixed_path" • "single_path" • "multi_path" • "single_path_ha" • "multi_path_ha" • "mixed_path_ha" • "unknown"
supports-raid-array		boolean	Indicates whether the system supports raid arrays back-end connectivity or not. Possible values: "true" or "false".
system-id		string	System ID. This is defined by the vendor. Currently, it is a string of numbers
system-machine-type		string optional	Machine type of the system, like FAS3050
system-model		string	Model name of the system, like FAS3050
system-name		string	System name. This is the name defined during setup.
system-revision		string optional	System revision. There revision id of the system board. Currently, a character followed by a number, B0.
system-serial-number		string optional	System serial number.Currently a string of numbers.
vendor-data1		string optional	Vendor specific opaque data field 1.
vendor-data2		string optional	Vendor specific opaque data field 2.
vendor-data3		string optional	Vendor specific opaque data field 3.
vendor-id		string	Hardware vendor identifier.
vm-system-disks		vm-system-disks optional	Backing info for the Data ONTAP-v system disks
vmhost-info		vmhost-info optional	Info block for the hypervisor physical node on Data ONTAP-v

Element definition: **system-node-discovery**

[top]

Discovered nodes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cluster-ip-addresses		ip-address[] optional	The cluster IP addresses of the discovered node. Attributes: non-creatable, non-modifiable
cluster-name		string optional	Cluster Name Attributes: non-creatable, non-modifiable
cluster-netmask		ip-address optional	The cluster LIF netmask. Attributes: non-creatable, non-modifiable
cluster-uuid		uuid optional	Cluster UUID Attributes: non-creatable, non-modifiable
is-node-in-cluster		boolean optional	If true, the node is currently a member of the cluster identified in the cluster-uuid and cluster-name. If false, this node is not currently a member of a cluster. Attributes: non-creatable, non-modifiable
node		string optional	Node Name Attributes: key, required-for-create, non-modifiable
node-model		string optional	The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable
node-nvram-id		nvramid optional	Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable
node-serial-number		string optional	The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable
partner-nvram-id		nvramid optional	The NVRAM-ID of the partner to the discovered node. Attributes: non-creatable, non-modifiable
version		string optional	Data ONTAP version running on the node. Attributes: non-creatable, non-modifiable

Element definition: **system-node-kernel-info**

[top]

Diagnostics and firmware details of a node

Name	Range	Type	Description
compilation-flags		string optional	Displays the verbose output which currently includes the compilation flags
firmware-info		system-path-version[] optional	Firmware path and firmware version
kernel-info		system-path-version[] optional	Kernel path and kernel version

node-name		string	Name of the node

Element definition: **system-node-power-info**

[top]

Node Power Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	Target node for the operation Attributes: key, non-creatable, non-modifiable
status		power-status optional	Current Power Status Attributes: non-creatable, non-modifiable Possible values: • "on" - Node is powered on, • "off" - Node is powered off

Element definition: **system-services-web-info**

[top]

Web server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
csrf-protection-enabled		boolean optional	CSRF Protection Enabled Attributes: non-creatable, modifiable
csrf-token-absolute-timeout	**[0..2^32-1]**	integer optional	CSRF Token Absolute Timeout (Seconds) Attributes: non-creatable, modifiable
csrf-token-concurrent-limit	**[0..9999]**	integer optional	Maximum Number of Concurrent CSRF Tokens Attributes: non-creatable, modifiable
csrf-token-idle-timeout	**[0..2^32-1]**	integer optional	CSRF Token Idle Timeout (Seconds) Attributes: non-creatable, modifiable
external		boolean optional	Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable
		boolean	

http-enabled		optional	HTTP Enabled Attributes: non-creatable, modifiable
http-port	**[0..65535]**	integer optional	HTTP Port Attributes: non-creatable, modifiable
https-port	**[0..65535]**	integer optional	HTTPS Port Attributes: non-creatable, modifiable
per-address-limit	**[24..999]**	integer optional	Per Address Limit Attributes: non-creatable, modifiable
ssl-fips-enabled		boolean optional	Global FIPS Enabled Attributes: non-creatable, non-modifiable
sslv3-enabled		boolean optional	SSLv3 Enabled Attributes: non-creatable, non-modifiable
status		web-proto-status optional	Protocol Status Attributes: non-creatable, non-modifiable Possible values: • "offline" - All web services are consistently configured and working correctly, • "partial" - One or more nodes' web services are unavailable due to an error condition, • "mixed" - The nodes in the cluster do not share the same web services configuration, • "online" - All of the nodes' web services are unavailable due to an error condition, • "unclustered" - The current node is not part of an active cluster
tlsv1-enabled		boolean optional	TLSv1 Enabled Attributes: non-creatable, non-modifiable
wait-queue-capacity	**[0..2^32-1]**	integer optional	Wait Queue Capacity Attributes: non-creatable, modifiable

Element definition: **system-services-web-node-info**

[top]

Node web server status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
csrf-token-count	**[0..2^32-1]**	integer optional	CSRF Token Count Attributes: non-creatable, non-modifiable
external		boolean optional	Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable
http-enabled		boolean optional	HTTP Enabled Attributes: non-creatable, modifiable
http-port	**[0..65535]**	integer optional	HTTP Port Attributes: non-creatable, modifiable
		integer	

https-port	**[0..65535]**	optional	HTTPS Port Attributes: non-creatable, modifiable
mean-connection-wait-time	**[0..2^32-1]**	integer optional	Mean Connection Wait Time (ms) Attributes: non-creatable, non-modifiable
node		node-name optional	Node Attributes: key, non-creatable, non-modifiable
peak-concurrency	**[0..2^64-1]**	integer optional	Peak Concurrency Attributes: non-creatable, non-modifiable
peak-connection-wait-time	**[0..2^32-1]**	integer optional	Peak Connection Wait Time (ms) Attributes: non-creatable, non-modifiable
peak-per-address-concurrency	**[0..2^64-1]**	integer optional	Peak Per-Address Concurrency Attributes: non-creatable, non-modifiable
per-address-limit	**[24..999]**	integer optional	Per Address Limit Attributes: non-creatable, modifiable
status		web-proto-status optional	Protocol Status Attributes: non-creatable, non-modifiable Possible values: • "offline" - All web services are consistently configured and working correctly, • "partial" - One or more nodes' web services are unavailable due to an error condition, • "mixed" - The nodes in the cluster do not share the same web services configuration, • "online" - All of the nodes' web services are unavailable due to an error condition, • "unclustered" - The current node is not part of an active cluster
status-code	**[0..2^32-1]**	integer optional	Status Return Code Attributes: non-creatable, non-modifiable
total-bytes	**[0..2^32-1]**	integer optional	Total Bytes Served Attributes: non-creatable, non-modifiable
total-connection-wait-time	**[0..2^64-1]**	integer optional	Total Connection Wait Time (ms) Attributes: non-creatable, non-modifiable
total-connections	**[0..2^64-1]**	integer optional	Total Connections Attributes: non-creatable, non-modifiable
total-delayed-connections	**[0..2^64-1]**	integer optional	Total Delayed Connections Attributes: non-creatable, non-modifiable
total-hits	**[0..2^32-1]**	integer optional	Total HTTP Requests Attributes: non-creatable, non-modifiable
total-http-ops	**[0..2^32-1]**	integer optional	Total HTTP ops Attributes: non-creatable, non-modifiable
total-https-ops	**[0..2^32-1]**	integer optional	Total HTTPS ops Attributes: non-creatable, non-modifiable
total-pend-auth	**[0..2^32-1]**	integer optional	Total Pending Auth Attributes: non-creatable, non-modifiable
total-rc-1xx	**[0..2^32-1]**	integer optional	Total RCs 100-199 Attributes: non-creatable, non-modifiable
total-rc-2xx	**[0..2^32-1]**	integer optional	Total RCs 200-299 Attributes: non-creatable, non-modifiable
total-rc-3xx	**[0..2^32-1]**	integer optional	Total RCs 300-399 Attributes: non-creatable, non-modifiable
total-rc-4xx	**[0..2^32-1]**	integer optional	Total RCs 400-499 Attributes: non-creatable, non-modifiable

total-rc-5xx	**[0..2^32-1]**	integer optional	Total RCs 500-599 Attributes: non-creatable, non-modifiable
total-workers	**[0..2^32-1]**	integer optional	Total Workers Attributes: non-creatable, non-modifiable
wait-queue-capacity	**[0..2^32-1]**	integer optional	Wait Queue Capacity Attributes: non-creatable, modifiable
work-state-close	**[0..2^32-1]**	integer optional	Workers Closing Attributes: non-creatable, non-modifiable
work-state-keep	**[0..2^32-1]**	integer optional	Workers in KeepAlive Attributes: non-creatable, non-modifiable
work-state-log	**[0..2^32-1]**	integer optional	Workers Logging Attributes: non-creatable, non-modifiable
work-state-read	**[0..2^32-1]**	integer optional	Workers Reading Attributes: non-creatable, non-modifiable
work-state-ready	**[0..2^32-1]**	integer optional	Workers Ready Attributes: non-creatable, non-modifiable
work-state-write	**[0..2^32-1]**	integer optional	Workers Writing Attributes: non-creatable, non-modifiable
workers-avail	**[0..2^32-1]**	integer optional	Workers Available Attributes: non-creatable, non-modifiable
workers-busy	**[0..2^32-1]**	integer optional	Workers Busy Attributes: non-creatable, non-modifiable

Element definition: **system-version-tuple**

[top]

Contains the Data ONTAP version tuple corresponding to the lowest version across the cluster.

Name	Range	Type	Description
generation		integer	First integer of the Data ONTAP version tuple corresponding the lowest version across the cluster.
major		integer	Second integer of the Data ONTAP version tuple corresponding the lowest version across the cluster.
minor		integer	Third integer of the Data ONTAP version tuple corresponding the lowest version across the cluster.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **externaldevice**

[top]

usb0|usb1 Possible values:

"usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **nvram-battery-status-enum**

[top]

ok|partially discharged|fully discharged|not present|near eol|eol|unknown|over charged|fully charged
Possible values:

- "battery_ok" ,
- "battery_partially_discharged" ,
- "battery_fully_discharged" ,
- "battery_not_present" ,
- "battery_near_end_of_life" ,
- "battery_at_end_of_life" ,
- "battery_unknown" ,

- "battery_over_charged" ,
- "battery_fully_charged"

[none]

Element definition: **nvramid**

[top]

NVRAM Id

[none]

Element definition: **operation-info**

[top]

Operation details. Contains the operation name, command path and API name.

Name	Range	Type	Description
api-name		string optional	API corresponding to operation, for e.g., if object name is 'volume' and operation name is 'create' then operation's api name would be 'volume-create'. If multiple APIs are associated with same operation then API names will be ',' separated. Attributes: non-creatable, non-modifiable
command-path		string optional	Operation Command Directory Path Attributes: non-creatable, non-modifiable
name		string optional	Name of the operation, for e.g., 'create', 'modify' etc.. Attributes: key, non-creatable, non-modifiable

Element definition: **power-status**

[top]

Possible values for power status of any node Possible values:

- "on" - Node is powered on,
- "off" - Node is powered off

[none]

Element definition: **sas2-sas3-mixed-stack-support**

[top]

all|direct-attached|bridge-attached|none Possible values:

- "all" - SAS2/SAS3 mixing supported in all stacks,
- "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks,
- "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks,
- "none" - SAS2/SAS3 mixing not supported

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **storage-configuration-state-enum** [top]

Unknown|Single-Path|Multi-Path|Mixed-Path|Single-Path HA|Multi-Path HA|Mixed-Path HA|Quad-Path|Quad-Path HA Possible values:

- "unknown" ,
- "single_path" ,
- "multi_path" ,
- "mixed_path" ,
- "single_path_ha" ,
- "multi_path_ha" ,
- "mixed_path_ha" ,
- "quad_path" ,
- "quad_path_ha"

[none]

Element definition: **system-api-element-info** [top]

api element description. This can be a simple type or a reference to another typedef (as defined in the 'type' element. Arrays are signified by having '[]' appended to the type name.

Name	Range	Type	Description
encrypted		string optional	encryption type. If missing the parameter isn't encrypted
is-nonempty		boolean optional	must element be non-empty. If false or missing element value may be empty.
is-optional		boolean optional	is element optional. If false or missing element is required.
is-output		boolean optional	is element an output element. If false or missing then is an input element
is-validated		boolean optional	argument will have strong validation done by the server (e.g. integer range). If false or empty, no validation will be done.
name		string	name of element
type		string	type of variable possible values: "string", "integer", "boolean", type-name

Element definition: **system-path-version**

[top]

Image-path and image version for diagnostics and firmware files of the node

Name	Range	Type	Description
path-info		string optional	File path . Displays the file path in form /cfcard/x86_64/..
version-info		string optional	File version . Kernel and file versions Example: Firmware #.#.# or OS version

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vm-system-disks**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

Name	Range	Type	Description
vm-bootdisk-area-name		string optional	The name of the hypervisor's storage area for the VMs bootdisk. For ESX this is the name of a datastore.
vm-bootdisk-file-name		string optional	The hypervisor's filename for the VMs bootdisk.
vm-coredisk-area-name		string optional	The name of the hypervisor's storage area for the VMs coredump and swap disk. For ESX this is the name of a datastore.
vm-coredisk-file-name		string optional	The hypervisor's filename for the VMs coredump disk.
vm-logdisk-area-name		string optional	The name of the hypervisor's storage area for the VMs log disk. For ESX this is the name of a datastore.
vm-logdisk-file-name		string optional	The hypervisor's filename for the VMs log disk.

Element definition: **vmhost-info**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

Name	Range	Type	Description
vm-custom-max-capacity		integer optional	The maximum system capacity (in TB) that can be configured on the VM. Example is "20".
vm-uuid		string optional	The hypervisor-supplied UUID, Universal Unique Identifier, for the virtual machine. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0".
vmhost-bios-release-date		string optional	Release date for the currently running hypervisor BIOS. Example is "2000-01-01T00:00:00Z".
vmhost-bios-version		string optional	Current BIOS version of the hypervisor physical chassis. Example is "S5500.2.1.3.0.081620131102".
vmhost-boot-time		string optional	Time when the hypervisor was last booted. Example is "2014-01-01T00:00:00.420462-04:00".
vmhost-cpu-clock-rate	**[0..2^32-1]**	integer optional	Speed of the hypervisor CPU cores (MHz).
vmhost-cpu-core-count	**[0..2^32-1]**	integer optional	Number of physical CPU cores on the hypervisor. Physical CPU cores are the processors contained by a CPU package.
vmhost-cpu-socket-count	**[0..2^32-1]**	integer optional	Number of physical CPU packages on the hypervisor. Physical CPU packages are chips that contain one or more processors. Processors contained by a package are also known as CPU cores. For example, one dual-core package is comprised of one chip that contains two CPU cores.
vmhost-cpu-thread-count	**[0..2^32-1]**	integer optional	Number of physical CPU threads on the hypervisor.
vmhost-error		string optional	Error (if any) while retrieving hypervisor details. Example is "[13115] vSphere server is missing".
vmhost-gateway		string optional	The default gateway (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmhost-hardware-vendor		string optional	Name of the hypervisor hardware manufacturer. Example is "IBM".
vmhost-hypervisor		string optional	Complete product name, including the version information for the hypervisor.
vmhost-ip-address		string optional	Primary IP address (IPv4 or IPv6) assigned to the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmhost-memory	**[0..2^64-1]**	integer optional	Physical memory size of the hypervisor (bytes).
vmhost-model		string optional	The hardware model of the hypervisor machine. Example is "IBM eServer BladeCenter HS21".
vmhost-name		string optional	Host name assigned to the hypervisor. Example is "myesx.example.com".
vmhost-netmask		string optional	Subnet mask address (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334".
vmhost-processor-id		string optional	Processor ID of the hypervisor. Example is "0000:0000:0000:0001:0000:0110:0111:0110".
vmhost-		string	

processor-type		optional	CPU Model of the hypervisor.
vmhost-software-vendor		string optional	Name of the virtual machine software manufacturer.
vmhost-uuid		string optional	UUID, Universal Unique Identifier, of the hypervisor. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0".

Element definition: **web-proto-status**

[top]

offline|partial|mixed|online|unclustered Possible values:

- "offline" - All web services are consistently configured and working correctly,
- "partial" - One or more nodes' web services are unavailable due to an error condition,
- "mixed" - The nodes in the cluster do not share the same web services configuration,
- "online" - All of the nodes' web services are unavailable due to an error condition,
- "unclustered" - The current node is not part of an active cluster

[none]

APIs in Category: **tape-mc-info**

tape-mc-get
tape-mc-get-iter
tape-mc-info-alias-clear
tape-mc-info-alias-set
tape-mc-info-offline
tape-mc-info-online
tape-mc-info-position
tape-mc-info-reset
tape-mc-info-test-release
tape-mc-info-test-reserve
tape-mc-info-trace

This set of ZAPIs allows management of cluster-wide tape drive and media changer devices.

tape-mc-get

[top]

Return a tape drive / media changer view

Input Name	Range	Type	Description
desired-attributes		tape-mc-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
device-id		string	Device ID
node-name		node-name	Node

Output Name	Range	Type	Description
attributes		tape-mc-info	The attributes of the tape-mc-info.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-get-iter

[top]

Iterate over the list of Tape/MC objects

Input Name	Range	Type	Description
desired-attributes		tape-mc-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 300
query		tape-mc-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the tape-mc-info object. All tape-mc-info objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		tape-mc-info[] optional	The list of attributes of tape-mc-info objects.
next-tag		string optional	Tag for the next call. Not present when there are no more tape-mc-info objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

tape-mc-info-alias-clear

[top]

Clear tape drive / media changer alias. Specify name or clear-scope but not both.

Input Name	Range	Type	Description
clear-scope		tape-mc-device-scope-enum optional	Scope of Alias Clear Operation
name		string optional	Alias Name That Is to Be Cleared
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-alias-set

[top]

Set a tape/drive media changer alias

Input Name	Range	Type	Description
mapping		string	Mapping for Alias Name
name		string	Alias Name for Tape Drive or Media Changer
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-offline

[top]

Take a tape drive offline. Specify name or device-id but not both.

Input Name	Range	Type	Description
device-id		string optional	Tape Drive Device ID
device-name		string optional	Tape Drive Device Name
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-online

[top]

Bring a tape drive online

Input Name	Range	Type	Description
device-id		string optional	Tape Drive Device ID
device-name		string optional	Tape Drive Device Name
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-position

[top]

Position tape cartridge

Input Name	Range	Type	Description
count		integer optional	Count for Positioning
device-name		string	Tape Drive Device Name
node-name		node-name	Node

operation		tape-mc-tape-oper-enum	Tape Position Operation

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-reset

[top]

Reset the tape drive

Input Name	Range	Type	Description
device-id		string	Tape Drive Device ID
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-test-release

[top]

Release a tape drive test reservation

Input Name	Range	Type	Description
device-id		string	Tape Drive Device ID
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-test-reserve

[top]

Reserve a tape drive for testing

Input Name	Range	Type	Description
device-id		string	Tape Drive Device ID
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

tape-mc-info-trace

[top]

Enable/disable tape trace operations

Input Name	Range	Type	Description
is-trace-enabled		boolean	Tape Trace Enabled or Disabled
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **tape-mc-device-scope-enum**

[top]

tape|media-changer|all Possible values:

- "none" - Scope none,
- "tape" - Scope of the operation is tape drives only,
- "media_changer" - Scope of the operation is for media changers only,
- "all" - Scope of the operation is for both tape drives and media changers

[none]

Element definition: **tape-mc-info**

[top]

Information about Tape and Media Changer Devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alias-		string	Alias Mapping Attributes: non-creatable, non-

mapping		optional	modifiable
alias-name		string optional	Alias Name Attributes: non-creatable, non-modifiable
block-number	**[-2^31..2^31-1]**	integer optional	Block Number Attributes: non-creatable, non-modifiable
density-formats		device-density-format[] optional	Device density formats
description		string optional	Description Attributes: non-creatable, non-modifiable
device-id		string optional	Device ID Attributes: key, non-creatable, non-modifiable
device-if-type		tape-mc-device-if-type-enum optional	Device Interface Type Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Tape drive/media changer interface type unknown, • "fibre_channel" - Tape drive/media changer fibre channel interface type, • "sas" - Tape drive/Media changer SAS interface type, • "pscsi" - Tape drive/media changer pSCSI interface type
device-names		device-name-density[] optional	Device names for tape positioning
device-state		tape-mc-device-state-enum optional	Operational State of Device Attributes: non-creatable, non-modifiable Possible values: • "unknown" - State of the tape device is unknown, • "available" - Tape device available for use, • "ready_write_enabled" - Tape drive is ready and write-enabled, • "ready_write_protected" - Tape drive is ready and write-protected, • "offline" - Tape device is offline, • "in_use" - Tape device is currently in use, • "error" - Tape device is reporting errors, • "reserved_by_another_host" - Tape device is reserved by another node or host, • "normal" - Tape device is in a normal functional state, • "rewinding" - Tape device is rewinding a tape, • "erasing" - Tape device is erasing a tape
device-type		string optional	Device Type Attributes: non-creatable, non-modifiable
error		string optional	Tape Error Attributes: non-creatable, non-modifiable
file-number	**[-2^31..2^31-1]**	integer optional	File Number Attributes: non-creatable, non-modifiable
functional-status		tape-mc-func-status-enum optional	Functional Status Attributes: non-creatable, non-modifiable Possible values: • "unknown" - Tape device status unknown, • "normal" - Tape device shows normal status,

			"error" - Tape device is reporting errors
initiator		string optional	Initiator Port Attributes: non-creatable, non-modifiable
node-name		node-name optional	Node Attributes: key, non-creatable, non-modifiable
residual-count	**[-2^31..2^31-1]**	integer optional	Residual Count of Last I/O Operation Attributes: non-creatable, non-modifiable
resv-type		tape-mc-resv-type-enum optional	Reservation Type for device Attributes: non-creatable, non-modifiable Possible values: • "off" , • "persistent" , • "scsi"
serial-number		string optional	Serial Number Attributes: non-creatable, non-modifiable
wwnn		string optional	World Wide Node Name Attributes: non-creatable, non-modifiable
wwpn		string optional	World Wide Port Name Attributes: non-creatable, non-modifiable

Element definition: **tape-mc-tape-oper-enum**

[top]

weof|fsf|bsf|fsr|bsr|rewind|erase|eom Possible values:

- "weof" - Write end-of-file,
- "fsf" - Forward space files,
- "bsf" - Backward space files,
- "fsr" - Forward space records,
- "bsr" - Backward space records,
- "rewind" - Rewind tape cartridge,
- "erase" - Erase tape media,
- "eom" - End of tape media

[none]

Element definition: **device-density-format**

[top]

Device density formats

Name	Range	Type	Description
device-format		string optional	Tape Cartridge Format Attributes: non-creatable, non-modifiable

Element definition: **device-name-density**

[top]

Device names for tape positioning

Name	Range	Type	Description
device-name-no-rewind		string optional	Device Name for No Rewind Attributes: non-creatable, non-modifiable
device-name-rewind		string optional	Device Name for Rewind Attributes: non-creatable, non-modifiable
device-name-unload-reload		string optional	Device Name for Unload Reload Attributes: non-creatable, non-modifiable

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **tape-mc-device-if-type-enum**

[top]

unknown|fibre-channel|SAS|pSCSI Possible values:

- "unknown" - Tape drive/media changer interface type unknown,
- "fibre_channel" - Tape drive/media changer fibre channel interface type,
- "sas" - Tape drive/Media changer SAS interface type,
- "pscsi" - Tape drive/media changer pSCSI interface type

[none]

Element definition: **tape-mc-device-state-enum**

[top]

unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal Possible values:

- "unknown" - State of the tape device is unknown,
- "available" - Tape device available for use,
- "ready_write_enabled" - Tape drive is ready and write-enabled,
- "ready_write_protected" - Tape drive is ready and write-protected,
- "offline" - Tape device is offline,
- "in_use" - Tape device is currently in use,
- "error" - Tape device is reporting errors,
- "reserved_by_another_host" - Tape device is reserved by another node or host,
- "normal" - Tape device is in a normal functional state,
- "rewinding" - Tape device is rewinding a tape,
- "erasing" - Tape device is erasing a tape

[none]

Element definition: **tape-mc-func-status-enum**

[top]

unknown|normal|error Possible values:

- "unknown" - Tape device status unknown,
- "normal" - Tape device shows normal status,
- "error" - Tape device is reporting errors

[none]

Element definition: **tape-mc-resv-type-enum**

[top]

off|persistent|scsi Possible values:

- "off" ,
- "persistent" ,
- "scsi"

[none]

APIs in Category: **template-management**

template-management-template-copy
template-management-template-delete
template-management-template-download
template-management-template-get
template-management-template-get-iter
template-management-template-parameter-get
template-management-template-parameter-get-iter
template-management-template-parameter-modify
template-management-template-parameter-modify-iter
template-management-template-provision
template-management-template-provision-error-get
template-management-template-rename
template-management-template-upload

This set of ZAPIs allows to manage Templates.

template-management-template-copy

[top]

Copy a Template.

Input Name	Range	Type	Description
destination-name		string	Destination template.
name		string	Name of the template

Errno	Description
EINTERNALERROR	
ETEMPLATENOTFOUND	
E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED	
E_TEMPLATE_FILE_NOT_EXISTS	
E_TEMPLATE_INTERNAL_FAILURE	

template-management-template-delete

[top]

Delete a template.

Input Name	Range	Type	Description
name		string	Name of the template.

Errno	Description
EINTERNALERROR	
ETEMPLATENOTFOUND	
E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED	

template-management-template-download

[top]

Download a template.

Input Name	Range	Type	Description
name		string optional	Name of the template.
uri		string	URI of the template.

Errno	Description
EINTERNALERROR	
E_TEMPLATE_DOWNLOAD_FAILED	
E_TEMPLATE_VERSION_KEY_NOT_FOUND	
E_TEMPLATE_NAME_NOT_FOUND	
E_TEMPLATE_INVALID_TEMPLATE	
E_TEMPLATE_VERSION_NOT_SUPPORTED	
E_TEMPLATE_SYNTAX_ERROR	
E_TEMPLATE_INTERNAL_ERROR	
E_TEMPLATE_TEMPLATE_TYPE_NOT_FOUND	
E_TEMPLATE_INTERNAL_FAILURE	
E_TEMPLATE_INVALID_TYPE	
E_TEMPLATE_USE_NAME_OPTION	
E_TEMPLATE_SAME_NAME_EXISTS	

template-management-template-get

[top]

Get the attributes of the template.

Input Name	Range	Type	Description
desired-		template-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If

attributes		optional	present, only the desired attributes for which information is available will be returned.
name		template-name	Name of the template

Output Name	Range	Type	Description
attributes		template-info	The attributes of the template-management.

Errno	Description
EINTERNALERROR	

template-management-template-get-iter

[top]

Display information about templates.

Input Name	Range	Type	Description
desired-attributes		template-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		template-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		template-info[] optional	The list of attributes of template-management objects.
next-tag		string optional	Tag for the next call. Not present when there are no more template-management objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

template-management-template-parameter-get

[top]

Get the parameter of a Template.

Input Name	Range	Type	Description
desired-attributes		template-parameter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
name		string	Name of the parameter
template		template-name	Name of the template

Output Name	Range	Type	Description
attributes		template-parameter-info	The attributes of the template-management.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

template-management-template-parameter-get-iter

[top]

Get the parameters of the Template.

Input Name	Range	Type	Description
desired-attributes		template-parameter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		template-parameter-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		template-parameter-info[] optional	The list of attributes of template-management objects.
next-tag		string optional	Tag for the next call. Not present when there are no more template-management objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

template-management-template-parameter-modify

[top]

Modify attributes of a parameter.

Input Name	Range	Type	Description
default-value		string optional	Default value of the parameter
name		string	Name of the parameter
template		template-name	Name of the template

Errno	Description
E_TEMPLATE_PERMISSION_DENIED	
E_TEMPLATE_INTERNAL_FAILURE	
E_TEMPLATE_CONST_MAX_LEN	
E_TEMPLATE_CONST_MAX_MIN_LEN	
E_TEMPLATE_CONST_ALLOW_VALS	
E_TEMPLATE_TYPE_CHECK_FAILED	

template-management-template-parameter-modify-iter

[top]

Modify attributes of a parameter.

Input Name	Range	Type	Description
attributes		template-parameter-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple template-management objects match a given query. If set to true, the API will continue modifying the next matching template-management even when modification of a previous template-management fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching template-management even when the modification of a previous matching template-management fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		template-parameter-info	If modifying a specific template-management, this input element must specify all keys. If modifying template-management objects based on query, this input element must specify a query.

return-failure-list		boolean optional	If set to true, the API will return the list of template-management objects (just keys) that were not modified due to some error. If set to false, the list of template-management objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of template-management objects (just keys) that were successfully updated. If set to false, the list of template-management objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		template-management-template-parameter-modify-iter-info[]	Information about template-management objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching template-management objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of template-management objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of template-management objects that matched the query and were successfully updated.
success-list		template-management-template-parameter-modify-iter-info[]	The template-management objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

template-management-template-provision

[top]

Configures a Vserver according to the specification provided in the template. This is an async operation. On a successful queuing of the import operation, a job ID of the job that would configure the Vserver would be returned.

Input Name	Range	Type	Description
custom-inputs		custom-input-info[] optional	An array, one entry per each custom input.
template		string	The name of the template.

Output Name	Range	Type	Description
job-id	**[0..2^64-1]**	integer optional	The job id of the job that was queued to configure the Vserver.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

template-management-template-provision-error-get

[top]

Get the Template Provision Error Details.

Input Name	Range	Type	Description
desired-attributes		template-provision-error-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
jobid	**[0..2^64-1]**	integer	Job ID

Output Name	Range	Type	Description
attributes		template-provision-error-info	The attributes of the template-management.

Errno	Description
EINTERNALERROR	

template-management-template-rename

[top]

Rename a template.

Input Name	Range	Type	Description
name		string	Name of the template
new-name		string	New name of the template.

Errno	Description
EINTERNALERROR	
ETEMPLATENOTFOUND	
E_TEMPLATE_FILE_NOT_EXISTS	
E_TEMPLATE_NOT_SUPP_ON_RO_AND_SERVICE	
E_TEMPLATE_SUPP_ONLY_ON_TEMPLATES	
E_TEMPLATE_INTERNAL_FAILURE	
E_TEMPLATE_SAME_NAME_EXISTS	

template-management-template-upload

[top]

Upload a template.

Input Name	Range	Type	Description
name		string	Name of the template.
uri		string	URI to upload the template.

Errno	Description
EINVALIDINPUTERROR	
E_TEMPLATE_UPLOAD_FAILED	
E_TEMPLATE_FILE_NOT_EXISTS	
E_TEMPLATE_PROVIDE_DESTINATION_FILE_NAME	
E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED	

Element definition: **custom-input-info**

[top]

Name	Range	Type	Description
key		string	Name of the attribute.
value		string	Value of the attribute.

Element definition: **template-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description Attributes: non-creatable, non-modifiable
missing-prerequisites		string optional	Missing Prerequesites Attributes: non-creatable, non-modifiable
name		template-name optional	Name of the template Attributes: key, non-creatable, non-modifiable
parent-template		string optional	Parent template name Attributes: non-creatable, non-modifiable
permission		template-permission optional	Permission Attributes: non-creatable, non-modifiable Possible values: • "readonly" - Read Only, • "readwrite" - Read Write
uuid		uuid	UUID of the template Attributes: non-creatable, non-

		optional	modifiable
version		string optional	Version Attributes: non-creatable, non-modifiable

Element definition: **template-management-template-parameter-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against template-management object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
template-management-key		template-parameter-info	The keys for the template-management object to which the modify operation applies.

Element definition: **template-name** [top]

The name of the Template.

[none]

Element definition: **template-parameter-info** [top]

Template Parameter Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
allowed-vals		string optional	Allowed values Attributes: non-creatable, non-modifiable
default-value		string optional	Default value of the parameter Attributes: non-creatable, modifiable
max-length	**[0..2^32-1]**	integer optional	Maximum length Attributes: non-creatable, non-modifiable
name		string optional	Name of the parameter Attributes: key, non-creatable, non-modifiable

permission		string optional	Template permission Attributes: non-creatable, non-modifiable
range-max	**[0..2^32-1]**	integer optional	Maximum range Attributes: non-creatable, non-modifiable
range-min	**[0..2^32-1]**	integer optional	Minumum range Attributes: non-creatable, non-modifiable
recommended-value		string optional	Recommended value of the parameter Attributes: non-creatable, non-modifiable
template		template-name optional	Name of the template Attributes: key, non-creatable, non-modifiable
type		string optional	Type of the parameter Attributes: non-creatable, non-modifiable

Element definition: **template-provision-error-info**

[top]

Template Provision Errors When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
failure-errornum	**[0..2^32-1]**	integer optional	Failure Error Number Attributes: non-creatable, non-modifiable
failure-reason		string optional	Failure Reason Attributes: non-creatable, non-modifiable
input-params		string[] optional	Input Parameters Attributes: non-creatable, non-modifiable
jobid	**[0..2^64-1]**	integer optional	Job ID Attributes: key, non-creatable, non-modifiable

Element definition: **template-name**

[top]

The name of the Template.

[none]

Element definition: **template-permission**

[top]

template_permission Possible values:

- "readonly" - Read Only,
- "readwrite" - Read Write

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **ucm**

ucm-adapter-get
ucm-adapter-get-iter
ucm-adapter-modify

UCM provides a management framework to manage configurations of all Fibre Channel (FC) adapters and Converged Network Adapters (CNA) under Data ONTAP. Some adapters with dual operational modes can be configured into either FC or CNA modes. When configured as a CNA, the adapter can concurrently support Ethernet and Fibre Channel over Ethernet (FCoE). When configured as an FC adapter, the adapter only supports native FC. Not all adapters support both modes. Under FC or FCoE, Data ONTAP supports two different functions or FC-4 types: initiator, or target. The initiator type can be used for FC storage loops, FC TapeSAN, and OPR functionality. The target type can be used for SAN attach (FCP/Blocks access) functionality. To modify the configuration of an adapter, use the ucm-adapter-modify API.

ucm-adapter-get

[top]

Get the attributes of the UC Adapter.

Input Name	Range	Type	Description
adapter-name		string	Adapter
desired-attributes		uc-adapter-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node-name		node-name	Node

Output Name	Range	Type	Description
attributes		uc-adapter-info	The attributes of the UC Adapter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

ucm-adapter-get-iter

[top]

Iterate over a list of UC Adapter objects.

Input Name	Range	Type	Description
		uc-	Specify the attributes that should be returned. If not present, all

desired-attributes		adapter-info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		uc-adapter-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the UC Adapter object. All UC Adapter objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		uc-adapter-info[] optional	The list of attributes of UC Adapter objects.
next-tag		string optional	Tag for the next call. Not present when there are no more UC Adapter objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

ucm-adapter-modify

[top]

Modify the attributes of UC Adapter object.

Input Name	Range	Type	Description
adapter-name		string	Adapter
fc4-type		ucm-type optional	Configured Type
mode		ucm-mode optional	Configured Mode
node-name		node-name	Node

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **uc-adapter-info**

[top]

Information for one UC Adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
adapter-name		string optional	Adapter Attributes: key, non-creatable, non-modifiable
fc4-type		ucm-type optional	Current Type Attributes: non-creatable, non-modifiable Possible values: • "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
mode		ucm-mode optional	Current Mode Attributes: non-creatable, non-modifiable Possible values: • "fc" - Fibre Channel, • "cna" - Converged Network Adapter
node-name		node-name optional	Node Attributes: key, non-creatable, non-modifiable
pending-fc4-type		ucm-type optional	Pending Type Attributes: non-creatable, non-modifiable Possible values: • "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
pending-mode		ucm-mode optional	Pending Mode Attributes: non-creatable, non-modifiable Possible values: • "fc" - Fibre Channel, • "cna" - Converged Network Adapter
status		string optional	Administrative Status Attributes: non-creatable, non-modifiable
supported-fc4-type-for-cna-mode		ucm-type[] optional	Supported CNA Types Attributes: non-creatable, non-modifiable Possible values: • "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
			Supported FC Types Attributes: non-creatable, non-modifiable Possible values:

supported-fc4-type-for-fc-mode		ucm-type[] optional	• "initiator" - Initiator mode, • "target" - Target mode, • "fcvi" - Fcvi mode
supported-mode		ucm-mode[] optional	Supported Modes Attributes: non-creatable, non-modifiable Possible values: • "fc" - Fibre Channel, • "cna" - Converged Network Adapter

Element definition: **ucm-mode**

[top]

The operational mode of the adapter. Possible values:

- "fc" - Fibre Channel,
- "cna" - Converged Network Adapter

[none]

Element definition: **ucm-type**

[top]

The FC-4 type of the adapter. Possible values:

- "initiator" - Initiator mode,
- "target" - Target mode,
- "fcvi" - Fcvi mode

[none]

Element definition: **node-name**

[top]

The node's name

[none]

APIs in Category: **useradmin**

useradmin-domainuser-add
useradmin-domainuser-delete
useradmin-domainuser-list
useradmin-group-add
useradmin-group-delete
useradmin-group-list
useradmin-group-modify
useradmin-role-add
useradmin-role-delete
useradmin-role-list
useradmin-role-modify
useradmin-user-add
useradmin-user-delete
useradmin-user-list
useradmin-user-modify
useradmin-user-modify-password

useradmin-domainuser-add

[top]

Adds a nonlocal user into a group or groups. The user can be added as a SID or as domain\username. This API is only used in a windows environment.

Input Name	Range	Type	Description
user-identifier		string	Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid.
useradmin-groups		useradmin-group-info[]	List of local groups to contain the domain user.

Errno	Description
EINTERNALERROR	
EONTAPI_EPERM	
ECIFSNOTCONFIGURED	

Vfiler-enabled
Yes

useradmin-domainuser-delete

[top]

Removes a nonlocal user from a group or groups. The user can be removed as a SID or as domain\username. This API is only used in a windows environment.

Input Name	Range	Type	Description
user-identifier		string	Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid.
useradmin-groups		useradmin-group-info[]	Remove the SID from this list of local groups.

Errno	Description
EINTERNALERROR	
EONTAPI_EPERM	
ECIFSNOTCONFIGURED	

Vfiler-enabled
Yes

useradmin-domainuser-list

[top]

List all of the SIDs in a given group. This API is only used in a windows environment.

Input Name	Range	Type	Description
group-name		string	List only the SIDs in this group.

Output Name	Range	Type	Description
user-identifiers		sid[]	List of SID's inside of the group.

Errno	Description
EINTERNALERROR	
EONTAPI_EPERM	
ECIFSNOTCONFIGURED	

Vfiler-enabled
Yes

useradmin-group-add

[top]

Adds a group given the information provided.

Input Name	Range	Type	Description
useradmin-group		useradmin-group-info	New group information. A group must have a name and at least one role. A comment is also allowed. All other fields are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-group-delete

[top]

Deletes a group.

Input Name	Range	Type	Description
group-name		string	The name of the group to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-group-list

[top]

Lists full information for all groups on the system.

Input Name	Range	Type	Description
group-name		string optional	List only the information associated with this group.
verbose		boolean optional	Default is false. If set to true, then the allowed capabilities are placed into the group-info structure. Depending on number of groups and roles, this operation may take a long time.

Output Name	Range	Type	Description
useradmin-groups		useradmin-group-info[]	List of groups and information associated with them.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-group-modify

[top]

Modifies a group given the information provided.

Input Name	Range	Type	Description

new-group-name		string optional	New group name for this group. This is used to rename the group specified in useradmin-group. If this value is invalid, useradmin-group-modify fails without changing anything. The value is optional, and if not provided, the group name will be unchanged.
useradmin-group		useradmin-group-info	A group must have a name. If one or more roless and/or a comment is provided, the group is modified accordingly. All other fields are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-add

[top]

Adds a role given the information provided.

Input Name	Range	Type	Description
useradmin-role		useradmin-role-info	New role information. A role must have a name and at least one allowed capability. A role-info comment is also allowed. All other fields are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-delete

[top]

Deletes a role.

Input Name	Range	Type	Description
role-name		string	The name of the role to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-list

[top]

Lists full information for all roles on the system.

Input Name	Range	Type	Description
role-name		string optional	List only the information associated with this role.

Output Name	Range	Type	Description
useradmin-roles		useradmin-role-info[]	List of roles and information associated with them.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-role-modify

[top]

Modifies a role given the information provided.

Input Name	Range	Type	Description
useradmin-role		useradmin-role-info	A role must have a name. If one or more capabilities and/or a comment is provided, the role is modified accordingly.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-add

[top]

Adds a user given the information provided.

Input Name	Range	Type	Description
password		string	Password for the user. Please see documentation for constraints on the password.
useradmin-user		useradmin-user-info	New user information. A user must have a name and at least one group. A comment and full-name are also allowed. All other fields are ignored.

Errno	Description
EINTERNALERROR	
EINVALIDPASSWORD	

Vfiler-enabled
Yes

useradmin-user-delete

[top]

Deletes a user.

Input Name	Range	Type	Description
user-name		string	The name of the user to be deleted.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-list

[top]

Lists information for all administrative users on the system with the exception of root and snmp.

Input Name	Range	Type	Description
group-name		string optional	List only the users which are a part of this group. This option must be left empty if the option "user-name" contains a value.
user-name		string optional	List only the information associated with this user. This option must be left empty if the option "group-name" contains a value.
verbose		boolean optional	Default is false. If set to true, then the allowed capabilities are placed into the user-info structure. Depending on number of users, groups, and roles; this operation may take a long time.

Output Name	Range	Type	Description
useradmin-users		useradmin-user-info[]	List of users and information associated with them.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-modify

[top]

Modifies a user given the information provided.

Input Name	Range	Type	Description
useradmin-		useradmin-	A user must have a name. If one or more groups a comment and/or a full-name is provided, the user is modified accordingly. All other fields

user		user-info	are ignored.

Errno	Description
EINTERNALERROR	

Vfiler-enabled
Yes

useradmin-user-modify-password

[top]

Changes the password of a specified user.

Input Name	Range	Type	Description
new-password		string	New password for the user. Please see documentation for constraints on the password.
old-password		string optional	Current password for the user. A user with the capability 'security-passwd-change-others' and at least the same capabilities as the user being changed, does not need to enter the current password in order to change it to a new one.
user-name		string	The user who's password should be changed.

Errno	Description
EINTERNALERROR	
EINVALIDPASSWORD	
EONTAPI_EPERM	

Vfiler-enabled
Yes

Element definition: **sid**

[top]

Windows security identifier describing a user. A SID has the format S-1-5-21-int-int-int-rid.

[none]

Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the group is allowed.

comment		string optional	Comment for the group.
name		string	Name of the group.
rid		string optional	Unique relative identifier (per domain) for this group. (Used only for Windows.)
useradmin-roles		useradmin-role-info[] optional	List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list.

Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the role is allowed.
comment		string optional	Comment for the role.
name		string	Name of the role.

Element definition: **useradmin-user-info**

[top]

Structure containing information pertaining to a user.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the user is allowed.
comment		string optional	Comment for the user. This is only set if the user has a comment.
full-name		string optional	Full name of the user. (Used only for Windows.) This is only set if the user has a full-name.
name		string	Name of the user.
password-maximum-age		integer optional	Number of days that this user's password can be active before the user must change it. Default value is 2^31-1 days.
password-minimum-age		integer optional	Number of days that this user's password must be active before the user can change it. Default value is 0.
rid		string optional	Unique relative identifier (per domain) for this user. (Used only for Windows.)
status		string optional	Current status of the user account. This element cannot be used as an input. It is used as an output for useradmin-user-list. Possible values: "enabled", "disabled", or "expired".
useradmin-groups		useradmin-group-info[]	List of groups this user is part of. The only included entry in this structure is the name field. For full group information user useradmin-group-list.

Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

Name	Range	Type	Description
name		string	Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details.

Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the group is allowed.
comment		string optional	Comment for the group.
name		string	Name of the group.
rid		string optional	Unique relative identifier (per domain) for this group. (Used only for Windows.)
useradmin-roles		useradmin-role-info[] optional	List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list.

Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

Name	Range	Type	Description
allowed-capabilities		useradmin-capability-info[] optional	List of capabilities the role is allowed.
comment		string optional	Comment for the role.
name		string	Name of the role.

Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

Name	Range	Type	Description
name		string	Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details.

APIs in Category: **virtual-machine**

virtual-machine-get-info
virtual-machine-maintenance-event-acknowlege
virtual-machine-maintenance-event-get
virtual-machine-maintenance-event-get-iter
virtual-machine-system-disks-get-iter
vm-disk-object-store-create
vm-disk-object-store-destroy
vm-disk-object-store-dns-cache-create
vm-disk-object-store-dns-cache-destroy
vm-disk-object-store-dns-cache-get-iter
vm-disk-object-store-dns-cache-modify
vm-disk-object-store-get-iter
vm-disk-object-store-modify
vm-network-load-balancer-get-iter

virtual-machine-get-info

[top]

Retrieve virtual machine instance information.

Input Name	Range	Type	Description
desired-attributes		vm-instance-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
node		node-name	The name of the node.

Output Name	Range	Type	Description
attributes		vm-instance-info	The attributes of the virtual-machine.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAVMINFOACCESSERROR	

virtual-machine-maintenance-event-acknowlege

[top]

Acknowlege that the system is ready for the event to start

Input Name	Range	Type	Description
event-id		string	Event ID

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

virtual-machine-maintenance-event-get

[top]

Retrieve virtual machine instance maintenance event information.

Input Name	Range	Type	Description
desired-attributes		vm-instance-maintenance-event optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
event-id		string	A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502.
node		filer-id	The name of the node.

Output Name	Range	Type	Description
attributes		vm-instance-maintenance-event	The attributes of the virtual-machine.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

virtual-machine-maintenance-event-get-iter

[top]

Retrieve virtual machine instance maintenance event information.

Input Name	Range	Type	Description
desired-attributes		vm-instance-maintenance-event optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-instance-maintenance-event optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-

			tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-instance-maintenance-event[] optional	The list of attributes of virtual-machine objects.
next-tag		string optional	Tag for the next call. Not present when there are no more virtual-machine objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

virtual-machine-system-disks-get-iter

[top]

Retrieve Cloud Volumes ONTAP virtual machine system disks details.

Input Name	Range	Type	Description
desired-attributes		virtual-machine-system-disks-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		virtual-machine-system-disks-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine-system-disks object. All virtual-machine-system-disks objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		virtual-machine-system-disks-info[] optional	The list of attributes of virtual-machine-system-disks objects.
next-tag		string optional	Tag for the next call. Not present when there are no more virtual-machine-system-disks objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

EVSAPLATFORMNOTSUPPORTED	
EVSAVMINFOACCESSERROR	

vm-disk-object-store-create

[top]

Define the configuration for an object store.

Input Name	Range	Type	Description
azure-account		string	Azure Storage Account.
azure-private-key		string	Azure Storage Account Access Key.
container-name		string	Container Name.
node		filer-id	ONTAP Node Name.
object-store-name		object-store-name	ONTAP Name for this Object Store Config.
port	**[0..65535]**	integer	Port Number of the Object Store.
server		string	Fully Qualified Domain Name of the Object Store Server.
update-partner		boolean optional	Required parameter when the system is running in an HA configuration.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAOBJECTSTOREDUPLICATE	
EVSAOBJECTSTORENAMETOOLONG	
EVSAOBJECTSTORENAMETOOSHORT	
EVSAOBJECTSTORENAMENOTVALID	
EVSAOBJECTSTORENAMEINVALIDFIRSTCHAR	
EVSAOBJECTSTORENAMEINUSE	
EVSAREQUPDATEPARTNER	
EVSANOPARTNERNAME	
EVSAINVALIDOPTIONUPDATEPARTNER	
EVSAOBJECTSTORECONFIGSYNC	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	
E_OBJSTORE_CLIENT_OTHER	

vm-disk-object-store-destroy

[top]

Deletes the disk object store.

Input Name	Range	Type	Description
node		filer-id	ONTAP Node Name.
object-store-name		object-store-name	ONTAP Name for this Object Store Config.
update-partner		boolean optional	Update HA Partner

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAREQUPDATEPARTNER	
EVSANOPARTNERNAME	
EVSAINVALIDOPTIONUPDATEPARTNER	

vm-disk-object-store-dns-cache-create

[top]

Add a DNS mapping to the cache.

Input Name	Range	Type	Description
hostname		string	Hostname of the Object Store Server.
ipaddress		ip-address	IP Address of the Object Store Server.
node		filer-id	The name of the Node.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

vm-disk-object-store-dns-cache-destroy

[top]

Delete a DNS mapping from the cache.

Input Name	Range	Type	Description
hostname		string	Hostname of the Object Store Server.
node		filer-id	The name of the Node.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

vm-disk-object-store-dns-cache-get-iter

[top]

Iterate over the list of cached DNS mappings.

Input Name	Range	Type	Description
desired-attributes		vm-disk-object-store-dns-cache-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-disk-object-store-dns-cache-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store-dns-cache object. All vm-disk-object-store-dns-cache objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-disk-object-store-dns-cache-info[] optional	The list of attributes of vm-disk-object-store-dns-cache objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vm-disk-object-store-dns-cache objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vm-disk-object-store-dns-cache-modify

[top]

Modify a DNS mapping in the cache.

Input Name	Range	Type	Description
hostname		string	Hostname of the Object Store Server.
ipaddress		ip-address	IP Address of the Object Store Server.
node		filer-id	The name of the Node.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

vm-disk-object-store-get-iter

[top]

Iterate over the list of object store configurations.

Input Name	Range	Type	Description
desired-attributes		vm-disk-object-store-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-disk-object-store-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store object. All vm-disk-object-store objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-disk-object-store-info[] optional	The list of attributes of vm-disk-object-store objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vm-disk-object-store objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vm-disk-object-store-modify

[top]

Modify the configuration of an object store.

Input Name	Range	Type	Description
azure-private-		string	Azure Storage Account Access Key.

key		optional	
node		filer-id	ONTAP Node Name.
object-store-name		object-store-name	ONTAP Name for this Object Store Config.
server		string optional	Fully Qualified Domain Name of the Object Store Server.
update-partner		boolean optional	Required parameter when the system is running in an HA configuration.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	
EVSAREQUPDATEPARTNER	
EVSANOPARTNERNAME	
EVSAINVALIDOPTIONUPDATEPARTNER	
E_OBJSTORE_CLIENT_OPERATION_TIMEOUT	
E_OBJSTORE_CLIENT_SERVER_ERROR	
E_OBJSTORE_CLIENT_CONNECTION_ERROR	
E_OBJSTORE_CLIENT_INTERNAL_ERROR	
E_OBJSTORE_CLIENT_ACCESS_DENIED	
E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED	
E_OBJSTORE_CLIENT_DNS_NOT_FOUND	
E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT	
E_OBJSTORE_CLIENT_NO_SUCH_BUCKET	
E_OBJSTORE_CLIENT_STORE_INACCESSIBLE	
E_OBJSTORE_CLIENT_OTHER	

vm-network-load-balancer-get-iter

[top]

Retrieve network load balancer information.

Input Name	Range	Type	Description
desired-attributes		vm-network-load-balancer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vm-network-load-balancer-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vm-network-load-balancer-info[] optional	The list of attributes of virtual-machine objects.
next-tag		string optional	Tag for the next call. Not present when there are no more virtual-machine objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSAPLATFORMNOTSUPPORTED	

Element definition: **filer-id**

[top]

Filer UUID

[none]

Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **object-store-name**

[top]

Name of the object store

[none]

Element definition: **virtual-machine-system-disks-info**

[top]

Cloud Volumes ONTAP virtual machine system disks. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
node		node-name optional	The name of the node. Attributes: key, required-for-create, non-modifiable
vmdisk-bus-target-lun-id		string optional	Bus-Target-LUN ID for the disk. Attributes: non-creatable, non-modifiable
vmdisk-capacity		string optional	Size of the system disk Attributes: non-creatable, non-modifiable
vmdisk-file-name		string optional	File name of the system disk used by the hypervisor. Attributes: non-creatable, non-modifiable
vmdisk-id		string optional	System Disk ID. Attributes: non-creatable, non-modifiable
vmdisk-info		string optional	Platform-specific disk information. Attributes: non-creatable, non-modifiable
vmdisk-purpose		string optional	Purpose of the System Disk - Boot, NVRAM or Core. Attributes: key, required-for-create, non-modifiable
vmdisk-type		string optional	Type of the system disk - VMDISK or SSD. Attributes: non-creatable, non-modifiable

Element definition: **vm-disk-object-store-dns-cache-info**

[top]

VM Disk Object Store DNS Cache. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
hostname		string optional	Hostname of the Object Store Server. Attributes: key, required-for-create, non-modifiable
ipaddress		ip-address optional	IP Address of the Object Store Server. Attributes: required-for-create, modifiable
lookup-		datetime	Last time a DNS lookup was performed. Attributes: non-creatable, non-

time		optional	modifiable
node		filer-id optional	The name of the Node. Attributes: key, required-for-create, non-modifiable

Element definition: **vm-disk-object-store-info**

[top]

VM Disk Object Store Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
alive		boolean optional	Is Server Alive. Attributes: non-creatable, non-modifiable
azure-account		string optional	Azure Storage Account. Attributes: required-for-create, non-modifiable
container-name		string optional	Container Name. Attributes: required-for-create, non-modifiable
node		filer-id optional	ONTAP Node Name. Attributes: key, required-for-create, non-modifiable
object-store-name		object-store-name optional	ONTAP Name for this Object Store Config. Attributes: key, required-for-create, non-modifiable
port	**[0..65535]**	integer optional	Port Number of the Object Store. Attributes: required-for-create, non-modifiable
server		string optional	Fully Qualified Domain Name of the Object Store Server. Attributes: required-for-create, modifiable
update-partner		boolean optional	Required parameter when the system is running in an HA configuration. Attributes: optional-for-create, modifiable

Element definition: **vm-instance-info**

[top]

Virtual machine instance information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
account-id		string optional	The cloud provider-associated account ID for this virtual machine, for example 122047257761. This parameter is usually associated with a cloud provider login ID and password. Attributes: non-creatable, non-modifiable
automatic-restart		string optional	Automatic restart policy setting. Attributes: non-creatable, non-modifiable
availability-zone		string optional	A distinct location within a region that is insulated from failures in other availability zones. It provides low-latency network connectivity to other availability zones in the same region. A typical availability zone name might be us-east-1d which would reside within the us-east-1 region. Attributes: non-creatable, non-modifiable
cpu-platform		string optional	CPU platform of the instance Attributes: non-creatable, non-modifiable
fault-domain	**[0..2^32-1]**	integer optional	A cloud provider-assigned numerical fault domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable
image-id		string optional	The image ID installed on this virtual machine instance, for example ami-26bahc7c. It identifies a pre-defined template of a computing device's software environment. It contains the operating system and can also include application software, such as database servers, middleware, and web servers. In this case, the ID refers to an image that contains everything required to run Data ONTAP in the cloud. Attributes: non-creatable, non-modifiable
instance-id		string optional	A cloud provider-supplied unique instance ID for this virtual machine, for example i-a9d42f89 or db00a7755a5e4e8a8fe4b19bc3b330c3.1 Attributes: non-creatable, non-modifiable
instance-type		string optional	A specification (as defined by the cloud provider) that defines the memory, CPU, storage capacity and usage cost for a virtual machine instance. Some intance types are designed for standard applications, whereas others are designed for CPU-intensive or memory-intensive applications and so on. m3.xlarge is an example of an instance-type. Attributes: non-creatable, non-modifiable
node		node-name optional	The name of the node. Attributes: key, non-creatable, non-modifiable
offer		string optional	A Marketplace is an online store that offers applications and services either built on or designed to integrate with a particular cloud provider. A virtual machine offer corresponds to a class of product offering from a publisher. An offer is a collection of SKUs. Every offer appears as its own entity in the provider Marketplace. Attributes: non-creatable, non-modifiable
on-host-maintenance		string optional	VM Policy setting when hypervisor host maintenance occurs. Attributes: non-creatable, non-modifiable
primary-ip		string optional	The primary IP address assigned to this virtual machine instance, e.g. 192.168.0.1. Attributes: non-creatable, non-modifiable
provider		string optional	The Provider on which this instance is running. Attributes: non-creatable, non-modifiable
region		string optional	A named set of resources in the same geographical area. For example us-east-1 might be the name for a collection of compute and storage resources on the eastern coast of the United States. Typically a region contains multiple availability zones. Attributes: non-creatable, non-modifiable
resource-group-name		string optional	Resource group for the instance. Attributes: non-creatable, non-modifiable
			A SKU is the smallest purchasable unit of an offer. While within the

sku		string optional	same product. class (offer), SKUs allow you to differentiate between different features supported, VM image types and billing models supported. Attributes: non-creatable, non-modifiable
sku-version		string optional	The version for this virtual machine SKU. Attributes: non-creatable, non-modifiable
update-domain	**[0..2^32-1]**	integer optional	A cloud provider-assigned numerical update domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable
version		string optional	The instance metadata version of this virtual machine instance. Attributes: non-creatable, non-modifiable

Element definition: **vm-instance-maintenance-event**

[top]

Virtual machine instance maintenance event. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
event-id		string optional	A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502. Attributes: key, non-creatable, non-modifiable
event-status		maint-event-status optional	Scheduled or Started. Attributes: non-creatable, non-modifiable Possible values: • "scheduled" , • "started"
event-type		maint-event-type optional	Freeze, Reboot, or Redeploy. Attributes: non-creatable, non-modifiable Possible values: • "freeze" , • "reboot" , • "redeploy"
node		filer-id optional	The name of the node. Attributes: key, non-creatable, non-modifiable
not-before-time		datetime optional	The event will not start before the indicated time, for example: Mon, 19 Sep 2018 18:29:47 GMT. Attributes: non-creatable, non-modifiable

Element definition: **vm-network-load-balancer-info**

[top]

Network load balancer information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
active		boolean optional	Network load balancer is actively receiving health probe requests on this TCP port. Attributes: non-creatable, non-modifiable
last-probe-time		datetime optional	The timestamp of the most recent health probe request on this TCP port. Attributes: non-creatable, non-modifiable
lif-id	**[0..2^32-1]**	integer optional	ONTAP LIF ID. Attributes: key, non-creatable, non-modifiable
lif-name		string optional	ONTAP LIF Name. Attributes: non-creatable, non-modifiable
node		filer-id optional	The name of the node. Attributes: key, required-for-create, non-modifiable
probe-port	**[0..65535]**	integer optional	A TCP port which is regularly probed by the network load balancer. When the TCP port is healthy and open, the network load balancer will continue sending traffic to an associated network route. When unhealthy, the network load balancer will redirect all traffic intended for this route to an alternate route. Attributes: non-creatable, non-modifiable
remove-listener		boolean optional	Whether or not ONTAP has programmatically told the netwwork load balancer to stop listening on the health probe associated with this LIF. Attributes: non-creatable, non-modifiable
vserver-name		string optional	Vserver Name. Attributes: non-creatable, non-modifiable

Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **filer-id** [top]

Filer UUID

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **maint-event-status**

[top]

Cloud provider maintenance event status Possible values:

- "scheduled" ,
- "started"

[none]

Element definition: **maint-event-type**

[top]

Cloud provider maintenance event types Possible values:

- "freeze" ,
- "reboot" ,
- "redeploy"

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **object-store-name**

[top]

Name of the object store

[none]

APIs in Category: **volume**

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volume-mount
volume-move-get-iter
volume-move-pause

volume-move-resume
volume-move-start
volume-move-target-aggr-get-iter
volume-move-trigger-abort
volume-move-trigger-cutover
volume-offline
volume-offline-async
volume-online
volume-online-async
volume-options-list-info
volume-rehost
volume-rename
volume-rename-async
volume-restrict
volume-restrict-async
volume-scrub-list-info
volume-scrub-resume
volume-scrub-start
volume-scrub-stop
volume-scrub-suspend
volume-set-language
volume-set-option
volume-set-total-files
volume-size
volume-size-async
volume-space-get-iter
volume-split
volume-tiering-policies-list
volume-transition-check
volume-transition-prepare-to-downgrade
volume-transition-protect
volume-unmount
volume-verify-list-info
volume-verify-resume
volume-verify-start
volume-verify-stop
volume-verify-suspend
volume-wafl-info

volume-add

[top]

Adds disks to the given traditional volume. Specify the disks to add in the same way as for 'volume-create'. Disks cannot be added to a mirrored traditional volume if one of its plexes is offline. Addition of the specified disk(s) may not have completed by the time the API returns. Use 'volume-list-info' to query the traditional volume's status, and thus determine when the disk addition is complete. It is not possible to add disks directly to a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-add' to add the desired disks there (which, of course, will make their storage available to all flexible volumes contained in that same aggregate).

Input Name	Range	Type	Description

disk-count		integer optional	Number of disks to add, including parity disks. The disks will come from the spare pool. The smallest disks in the spare pool join the volume first, unless "disk-size" is specified as an argument. Range : [0..2^31-1].
disk-size		integer optional	The disk size in 4KB blocks. Disks that are within approximately 20% of the specified size are selected for use in the traditional volume. If neither the "disk-size" nor the "disk-size-with-unit" is specified, the smallest disks in the spare pool join the traditional volume first. This option is ignored if a specific list of disks to use is provided via the "disks" argument. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-size-with-unit		string optional	The disk size in specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is provided via the "disks" argument. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disks		disk-info[] optional	Specific list of disks to add to the traditional volume. If the traditional volume is mirrored and a specific disk list is supplied, another list ("mirror-disks") must also be supplied with the same number of disks.
force		boolean optional	Disks in a plex are not permitted to span spare spare pools. This behavior is overridden with this option when it is set to "true".
mirror-disks		disk-info[] optional	Specific list of mirror disks needed to accompany the list in the "disks" argument. This list must contain the same number of disks specified in "disks".
raid-group		string optional	Specifies the RAID group (for example, 'rg0') to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the traditional volume can no longer be reverted to a version of ONTAP prior to 6.2. In such a case, the "force" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose a traditional volume currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this traditional volume, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups.
volume		string	Name of the traditional volume to which disks are to be added.

Output Name	Range	Type	Description
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.

Errno	Description
EINTERNALERROR	
EVOLUMERGINVALID	
EINVALIDINPUTERROR	
EVOLUMEDISKSIZEINVALID	
EVOLUMEDISKDUP	
EDISKTYPEWRONGFORVOL	

volume-autosize-get

[top]

Given the name of a volume, get the autosize settings. This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
volume		string	The name of the volume for which we want to get autosize.

Output Name	Range	Type	Description
grow-threshold-percent		integer optional	The threshold capacity percentage at which the volume automatically grows. Range : [0..100]
increment-size		string optional	The increment size by which the volume would be grown, in kbytes.
is-enabled		boolean	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. When this parameter is 'true', the 'grow' autosize mode is in effect, while 'false' means that the autosize mode to 'off'.
maximum-size		string	The maximum size to which the volume would be grown automatically, in kbytes.
minimum-size		string optional	The minimum size to which the volume would be shrunk automatically, in kbytes.
mode		string optional	The operating mode of autosize. Valid values are "grow", "grow_shrink", and "off".
shrink-threshold-percent		integer optional	The threshold capacity percentage at which the volume automatically shrinks. Range : [0..100]

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

Vfiler-enabled
Yes

volume-autosize-set

[top]

Given the name of a volume, set the autosize settings. This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
grow-threshold-percent		integer optional	Specifies the percentage of the flexible volume's capacity at which autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100]
increment-		string	Specify the flexible volume's increment size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes',

size		optional	'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value of increment size is 5%.
is-enabled		boolean optional	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'.
maximum-size		string optional	Specify the flexible volume's maximum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size.
minimum-size		string optional	Specify the flexible volume's minimum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size.
mode		string optional	Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off".
reset		boolean optional	Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults.
shrink-threshold-percent		integer optional	Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100]
volume		string	The name of the flexible volume for which we want to set autosize.

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-autosize-set-async

[top]

Given the name of a volume, set the autosize settings. This API is not supported for flexible volumes or Infinite Volumes.

Input Name	Range	Type	Description
			Specifies the percentage of the flexible volume's capacity at which

grow-threshold-percent		integer optional	autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100]
maximum-size		string optional	Specify the flexible volume's maximum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size.
minimum-size		string optional	Specify the flexible volume's minimum allowed size using the following format < number > [k|m|g|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size.
mode		string optional	Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off".
reset		boolean optional	Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults.
shrink-threshold-percent		integer optional	Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100]
volume		string	The name of the flexible volume for which we want to set autosize.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-clone-create

[top]

Create a flexible volume that is a clone of a "backing" or "parent" flexible volume. A clone is a volume that is a writable snapshot of another volume. Initially, the clone and its parent share the same storage; more storage space is consumed only as one volume or the other changes. If a specific snapshot name within the parent volume is provided, it is chosen as the parent snapshot. Otherwise, the filer will create a new, distinctively- named snapshot in the parent volume for that purpose. The parent snapshot is locked in the parent volume, preventing its deletion until the clone is either destroyed or split from the parent using the 'volume-clone-split-start' command (see below). This command fails if the chosen parent volume is currently involved in a split operation. This command also fails if the chosen parent volume is a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

Input Name	Range	Type	Description
comment		string optional	A description for the clone volume being created. The maximum length of the description is 1023 characters.
force-worm-clone		boolean optional	If set to 'true', forces the creation of clone on a worm volume. If set to 'false', clone creation on any worm volume will fail, because clones of worm volumes are not deletable until all the inherited worm files on newly created clone have expired. Default value is false.
gid	**[1..2^32-1]**	integer optional	The UNIX group ID for the clone volume.
junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.
junction-path		string optional	The Junction Path at which this volume is to be mounted. The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An example of a valid junction path is: '/user/my_volume'. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned.
match-parent-storage-tier		boolean optional	Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same.
parent-snapshot		string optional	Name of the snapshot within 'parent-volume' that is to serve as the parent snapshot for the clone. If not provided, the filer will create a new snapshot named 'clone_parent_' (using a freshy-generated UUID) in 'parent-volume' for this purpose.
parent-volume		string	Name of the parent flexible volume for the clone.
parent-vserver		string optional	Parent flexible volume's Vserver.
qos-policy-			The QoS Policy Group Name that is to be associated with this FlexClone volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will

group-name		string optional	not monitor and control the traffic to it. Note that "none" is a reserved keyword used to remove the association of a storage object to a QoS policy group. Specifying "none" as a QoS policy group in this command would have no effect.
space-reserve		string optional	Specifies the type of volume guarantee for the clone. Possible values: none, file, volume. If this argument is not provided, then guarantee type is inherited from parent volume.
uid	**[1..2^32-1]**	integer optional	The UNIX user ID for the clone volume.
volume		string	Desired name of the clone.
volume-type		string optional	The type of the volume to be created. Possible values: • "rw" - read-write volume (default setting), • "dp" - data-protection volume If not provided, the filer will assume the default value i.e. "rw" volume. Creation of data-protection volume clone is only allowed from parent-volume which is paloma logical DP volume.
vserver		string	Name of the Vserver in which the clone will be created.
vserver-dr-protection		string optional	Specifies the protection type for the volume in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination.

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EVOL_ALREADY_MOUNTED	
EINVALIDINPUTERROR	
ESNAPSHOTDOESNOTEXIST	
ESNAPSHOTBUSY	
EDP_CLONE_NOT_ALLOWED	
ESNAPSHOT_NOT_EXPORTED	
EONTAPI_EEXIST	
EVOL_MAX_CLONEDEPHREACHED	
EONDEMAND_CANT_CREATE_FILE	
EVSERVER_OP_NOT_ALLOWED	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_VOL_TYPE_UNSUPPORTED	
EPARENT_NOT_DP_VSERVER_WHEN_CLONE_IN_DIFFERENT_VSERVER	
E_PROTECTION_HANDLING_FAILED	
E_GUARANTEED_CLONE_CANT_BE_LOGICALLY_ENFORCED	

Vfiler-enabled
Yes

volume-clone-get

[top]

Display details of a specific FlexClone volume

Input Name	Range	Type	Description
desired-attributes		volume-clone-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
volume		string	FlexClone Volume

Output Name	Range	Type	Description
attributes		volume-clone-info	The attributes of the volume.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTCLONE	
EVOL7MSNAPSHOT	

volume-clone-get-iter

[top]

Display a list of FlexClone volumes

Input Name	Range	Type	Description
desired-attributes		volume-clone-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 10
query		volume-clone-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-		volume-clone-	The list of attributes of volume objects.

list		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-clone-split-estimate

[top]

Display an estimate of additional storage required in the underlying aggregate to perform a volume clone split operation. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

Input Name	Range	Type	Description
volume		string	The name of the clone whose split usage is being estimated.

Output Name	Range	Type	Description
clone-split-estimate		clone-split-estimate-info[]	An estimate of the number of blocks required in the enclosing aggregate to split a clone from its parent.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTCLONE	
EVOLUMENOTONLINE	
EVOLUMEINUSE	
EINTERNALERROR	

Vfiler-enabled
Yes

volume-clone-split-start

[top]

Begin the process by which the given clone is split off from its underlying parent volume and snapshot. New storage is allocated for the clone that is distinct from its parent. This process may take some time and proceeds in the background. Use the 'volume-clone-split-status' command to view the operation's progress. Both clone and parent volumes remain available during the process of splitting them apart. Upon completion, the snapshot on which the clone was based will be unlocked in the parent volume. Any snapshots in the clone are removed at the end of processing. Use the 'volume-clone-split-stop' command to stop this process. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

In Data ONTAP Cluster-Mode, a job is created to perform the split operation. The job id of the job is returned in the API response. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
match-parent-storage-tier		boolean optional	Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same.
volume		string	Name of the clone that we want split off from its parent volume and snapshot.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	error code, if the operation caused an error.
result-error-message		string optional	error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The job id of the job that was queued to split the clone volume.
result-status		string optional	The operation status. Possible values: "succeeded", "in-progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTCLONE	
EVOL_SCAN_INIT_FAILED	
EVOL_CLONE_BEING_SPLIT	
EVSERVER_OP_NOT_ALLOWED	
ECANT_UPDATE_VINFO_MATCH_TIER_FLAG	

Vfiler-enabled
Yes

volume-clone-split-status

[top]

Display the progress in separating clones from their underlying parent volumes and snapshots. If a clone name is specified, then the split status for that clone is provided. If no clone name is provided, then status is provided for all clones currently being split. This command fails if applied to a traditional volume, and EONTAPI_EVOLNOTFLEX is thrown. Cloning is a capability that applies exclusively to flexible volumes. This command fails if the volume specified is not a clone, and EVOLNOTCLONE is thrown. This command fails if the volume specified is not being split, and EVOLOPNOTUNDERWAY is thrown.

Input Name	Range	Type	Description
volume		string optional	The name of the clone being split off from its parent volume and snapshot for which we want status.

Output Name	Range	Type	Description
clone-split-details		clone-split-detail-info[] optional	List of clones that are currently being split from their parent volumes, along with all relevant status information.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEDOESNOTEXIST	
EONTAPI_EVOLNOTFLEX	
EVOLNOTCLONE	
EVOLOPNOTUNDERWAY	
EVOLUMENOTONLINE	
EINTERNALERROR	
EAGGRDOESNOTEXIST	
EONTAPI_ENOSPC	
EPARENTNOTONLINE	

Vfiler-enabled
Yes

volume-clone-split-stop

[top]

Stop the process of splitting off a clone from its parent volume and snapshot. All of the blocks that were formerly shared between the given clone and its parent volume that have already been split off will remain that way. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

Input Name	Range	Type	Description
volume		string	The name of the clone for which we want to stop the process of being split off from its parent volume and snapshot.

Errno	Description
EONTAPI_ENOENT	
EVOLUMEDOESNOTEXIST	
EVOLNOTCLONE	
EVOLOPNOTUNDERWAY	
EINTERNALERROR	
EVSERVER_OP_NOT_ALLOWED	
ECANT_STOP_SPLIT_IN_OBJCOPY_PHASE	
ECANT_UPDATE_VINFO_SPLIT_STOP_FLAG	

Vfiler-enabled
Yes

volume-container

[top]

Return the name of the containing aggregate for the named flexible volume.

Input Name	Range	Type	Description
volume		string	The name of the flexible volume for which we want the containing

			aggregate.

Output Name	Range	Type	Description
containing-aggregate		string	Name of the given volume's containing aggregate, if applicable.

Errno	Description
EONTAPI_ENOENT	
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-create

[top]

Create a volume.

The detailed behavior of this API depends on where it is received:

1. In Data ONTAP Cluster-Mode, create a new flexible volume.

2. In Data ONTAP 7-Mode, create a new flexible, traditional, or sparse volume with the given name and characteristics. Freshly-created traditional volumes may not be operational immediately after the API returns. Use 'volume-list-info' to obtain information about volumes, including the status of the newly-created traditional volume in order to determine when it is fully operational.

This API is not supported for FlexGroups.

Input Name	Range	Type	Description
antivirus-on-access-policy		string optional	{Deprecated, this field does not have any effect on the operation of the volume.} The name of the Anti-Virus On-Access policy. The default policy name is 'default'. If not specified when creating a volume, the Anti-Virus On-Access Policy is inherited from the owning Vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces.
application-io-size		string optional	This field specifies the block size used for volume efficiency compression for the volume. Possible values: • '8K' ... 8K, • 'auto' ... auto
cache-retention-		string	The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:

priority		optional	low - Cache the cold blocks for the lowest time. • normal - Cache the cold blocks for the default time. • high - Cache the cold blocks for the highest time. Default cache retention priority is normal.
caching-policy		string optional	The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. • noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching. • meta-random_write - Same as meta and noread-random_write. • random_read_write-random_write - Same as random_read_write and noread-random_write. • all_read-random_write - Same as all_read and noread-random_write. • all_read_random_write-random_write - Same as all_read_random_write and noread-random_write. • all-random_write - Same as all and noread-random_write. Default caching-policy is auto.
cloud-retrieval-policy		string optional	This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are: • default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. • on-read - This policy retrieves tiered data for all client driven data reads. • never - This policy never retrieves tiered data. • promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud.
constituent-role		string optional	This parameter is not supported.

containing-aggr-name		string optional	**Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below. This input is required for creating a Cluster-Mode volume.
disk-count		integer optional	**Traditional** volumes only. Number of disks to place into the new traditional volume, including the parity disks. The disks in this newly-created traditional volume come from the spare disk pool. The smallest disks in this pool join the traditional volume first, unless the "disk-size" argument is specified. Either "disk-count" or "disks" must be supplied for traditional volumes. Range [0..2^31-1].
disk-size		integer optional	**Traditional** volumes only. Disk size in 4KB blocks. Disks that are within 20% of the specified size will be selected for use in the traditional volume. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disk-size-with-unit		string optional	**Traditional** volumes only. Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned.
disks		disk-info[] optional	**Traditional** volumes only. Specific list of disks to use for the new volume. If "mirrored" is set to true and a specific list of disks is supplied, the "mirror-disks" list with the same number of disks must also be supplied. Either "disk-count" or "disks" must be supplied when creating traditional volumes.
efficiency-policy		string optional	Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate. This policy can be created using the 'sis-policy-create' API.
encrypt		boolean optional	Specifies whether a volume is encrypted or not.
excluded-from-autobalance		boolean optional	When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing.
export-policy		string optional	The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'.
extent-size		string optional	This field specifies the default extent size for the volume. In case of WAFL volumes, this option would always be set to 4K. For MetaWAFL volumes, the possible values are as follows. Possible values: • '4K' ... 4K, • '8K' ... 8K, • '16K' ... 16K, • '32K' ... 32K
flexcache-		string	The name of the FlexCache policy. The default policy name is 'default'.

cache-policy		optional	This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API.
flexcache-fill-policy		string optional	The name of the FlexCache prefill policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API.
flexcache-origin-volume-name		string optional	The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume.
force		boolean optional	**Traditional** volumes only. Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to "true".
group-id	**[0..2^32-1]**	integer optional	The UNIX group ID for the volume. The default value is 0 ('root').
is-junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.
is-mirrored		boolean optional	**Traditional** volumes only. Specifies that the new traditional volume be mirrored (have two plexes). If set to "true", then the indicated disks will be split across the two plexes. By default, the new volume will not be mirrored.
is-nvfail-enabled		string optional	If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure. For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found. For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume. By default, this value is false.
is-snaplock		boolean optional	Specifies the creation of a SnapLock volume. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock volume is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise volume if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance volume. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock volume, the

			suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock volume, the suggested method is to specify neither snaplock-type nor is-snaplock.
is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false.
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false.
is-vserver-root		boolean optional	If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable.
junction-path		string optional	The Junction Path at which this volume is to be mounted. The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's namespace. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An example of a valid junction path is: '/user/my_volume'. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned.
language-		string	Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are: • 'C' ... POSIX, • 'ar' ... Arabic, • 'cs' ... Czech, • 'da' ... Danish, • 'de' ... German, • 'en' ... English, • 'en_US' ... English (US), • 'es' ... Spanish, • 'fi' ... Finnish, • 'fr' ... French, • 'he' ... Hebrew, • 'hr' ... Croatian, • 'hu' ... Hungarian, • 'it' ... Italian, • 'ja' ... Japanese euc-j, • 'ja_v1' ... Japanese euc-j, • 'ja_JP.PCK' ... Japanese PCK (sjis),

code		optional	• 'ja_JP.932' ... Japanese cp932, • 'ja_JP.PCK_v2' ... Japanese PCK (sjis), • 'ko' ... Korean, • 'no' ... Norwegian, • 'nl' ... Dutch, • 'pl' ... Polish, • 'pt' ... Portuguese, • 'ro' ... Romanian, • 'ru' ... Russian, • 'sk' ... Slovak, • 'sl' ... Slovenian, • 'sv' ... Swedish, • 'tr' ... Turkish, • 'zh' ... Simplified Chinese, • 'zh.GBK' ... Simplified Chinese (GBK), • 'zh_TW' ... Traditional Chinese euc-tw, • 'zh_TW.BIG5' ... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.
max-dir-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which any directory in this volume can grow. For 7-Mode volumes, the default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. For Cluster-Mode volumes, the default setting is 100 MBytes and it allows the directory to hold up to approximately 3,000,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.
max-write-alloc-blocks	**[0..2048]**	integer optional	The maximum number of blocks used for write allocation. This feature is deprecated.
mirror-disks		disk-info[] optional	**Traditional** volumes only. List of mirror disks to use. It must contain the same number of disks specified in "disks".
percentage-snapshot-reserve		integer optional	The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90]
qos-adaptive-policy-group-name		string optional	The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups.
qos-policy-group-name		string optional	The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect.

raid-size		integer optional	**Traditional** volumes only. Specifies the maximum number of disks in each RAID group in the traditional volume. The maximum value for this parameter is of raidsize is 28. The default value is platform-dependent. The valid range of values is also platform-dependent, but never wider than [2..28].
remote-location		string optional	Specifies the remote host and volume name for the origin of the FlexCache. A FlexCache license is necessary for this option to be utilized. The default action is not to create a FlexCache Volume. Format: : Create a sparse volume as a FlexCache for the given remote host and remote volume name. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name. ESERVICENOTLICENSED is returned if the FlexCache service is not licensed. EINVALIDINPUT is returned if the host, or source volume is found to be invalid.
size		string optional	**Flexible** volumes only. The initial size of the new flexible volume. The format to use is: < number > k|m|g|t where "k" means kilobytes, "m" means megabytes, "g" means gigabytes, and "t" means terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. If provided, this argument must be accompanied by the "containing-aggr-name" parameter described above.
snaplock-type		string optional	Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUT is returned if snaplock-type has an illegal value or if is-snaplock has been set to "false". EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running.
snapshot-policy		string optional	The name of the snapshot policy. The default policy name is 'default'. This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs.
space-reserve		string optional	Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume.
			Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**. **none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors. **thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 100 - 100% of the space required for

space-slo		string optional	overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported. **semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved. • Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: ◦ enabled: true ◦ commitment: destroy ◦ trigger: volume ◦ defer-delete: none ◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share In addition, with a value of semi-thick, the following technologies are not supported for the volume: • File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required. • Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed. • Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies.
storage-efficiency-mode		string optional	This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms. Possible values: • 'default' ... default, • 'efficient' ... efficient
storage-service		string optional	This parameter is not supported.
tiering-minimum-cooling-days	**[2..183]**	integer optional	This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling

			window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data.
tiering-policy		string optional	The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are: • snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • none - Volume blocks will not be tiered to the capacity tier. • backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is snapshot-only.
unix-permissions		string optional	Unix permission bits in octal string format. It's similar to Unix style permission bits: In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users. In Data ONTAP Cluster-Mode, for security style "mixed" or "unix", the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style "ntfs", the default setting of '0000' gives no permissions to owner, group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.
user-id	**[0..2^32-1]**	integer optional	The UNIX user ID for the volume. The default value is 0 ('root').
vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary.
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this.
volume		string optional	Name of the volume to create. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. In Data ONTAP 7-mode, the volume names must be unique on a controller.
volume-comment		string optional	A description for the volume being created. Range:[0..1023]
volume-raid-type		string optional	**Traditional** volumes only. Specifies the type of RAID groups to use in the new traditional volume. The default is "raid4" on most platforms. Possible values: raid4, raid_dp, raid_tec.

volume-security-style		string optional	The security style associated with this volume. Possible values: • 'mixed' ... Mixed-style security, • 'ntfs' ... NTFS/Windows-style security, • 'unix' ... Unix-style security (default for Flexible Volume) Security styles don't apply to GX-striped data volumes.
volume-state		string optional	Desired state of the volume after it is created. Possible values: • 'online', • 'restricted', • 'offline'
volume-type		string optional	The type of the volume to be created. Possible values: • "rw" - read-write volume (default setting), • "ls" - load-sharing volume, • "dp" - data-protection volume, • "dc" - data-cache volume (FlexCache)
vserver-dr-protection		string optional	Specifies the protection type for the volume in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination.

Output Name	Range	Type	Description
bad-disks		disk-info[] optional	**Traditional** volumes only. List of disks that were not added. This is only returned if there are bad disks.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMERGSIZEINVALID	
EINVALIDINPUTERROR	
EVOLUMELANGUAGEINVALID	
EVOLUMEDISKSIZEINVALID	
EVOLUMEDISKDUP	
ESERVICENOTLICENSED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLALREADYMOUNTED	
EONTAPI_EWORMNOCLOCK	
EVOLUME_TYPE_NOT_SUPPORTED	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_NO_SUCH_PG	
E_QOS_TOO_MANY_USER_WIDS	

E_QOS_GENERAP_OP_ERROR	
E_QOS_VSERVERIZATION_VIOLATION	
E_QOS_DC_VOL_TYPE_UNSUPPORTED	
E_QOS_LS_VOL_TYPE_UNSUPPORTED	
E_QOS_VOL_TYPE_UNSUPPORTED	
E_PROTECTION_HANDLING_FAILED	
E_FAILED_TO_ADD_KEY_INFO_INTO_VLDB	
E_ENCRYPTION_KEY_CREATE_ERR	
E_VV_CANT_CREATE_KEYS_FILE	
E_VV_CANT_ACCESS_KEYS_FILE	
E_ENCRYPTION_RESOURCES_UNAVAILABLE	
EVOL_UNABLE_TO_CREATE_TRASHDIR	

volume-create-async

[top]

Create a volume. The ability to create Infinite Volumes has been removed as of Data ONTAP 9.4. When creating a FlexGroup, four constituents will be created on every aggregate specified in the aggr-list parameter. An aggregate may be specified multiple times to have extra constituents created on it. The default value of four constituents per aggregate can be overriden by specifying a different value for the aggr-list-multiplier parameter. This API is not supported for FlexGroup constituents.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. This parameter is only supported for FlexGroups.
aggr-list-multiplier	**[1..1000]**	integer optional	Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 4. This parameter is only supported for FlexGroups.
application-io-size		string optional	This field specifies the block size used for volume efficiency compression for the volume. Possible values: • '8K' ... 8K, • 'auto' ... auto
auto-provision-as		string optional	
cache-retention-priority		string optional	The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are: • low - Cache the cold blocks for the lowest time. • normal - Cache the cold blocks for the default time.

			• high - Cache the cold blocks for the highest time. Default cache retention priority is normal.
caching-policy		string optional	The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. • noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching. • meta-random_write - Same as meta and noread-random_write. • random_read_write-random_write - Same as random_read_write and noread-random_write. • all_read-random_write - Same as all_read and noread-random_write. • all_read_random_write-random_write - Same as all_read_random_write and noread-random_write. • all-random_write - Same as all and noread-random_write. Default caching-policy is auto. This parameter is only supported for FlexGroups.
cloud-retrieval-policy		string optional	This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are: • default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. • on-read - This policy retrieves tiered data for all client driven data reads. • never - This policy never retrieves tiered data. • promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud.
containing-aggr-name		string optional	**Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below.

efficiency-policy		string optional	Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate. This policy can be created using the 'sis-policy-create' API. This parameter is not supported for FlexGroups.
encrypt		boolean optional	Specifies whether a volume is encrypted or not.
encryption-type		integer optional	This parameter specifies the encryption-type of the FlexGroup created where the system automatically selects aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
excluded-from-autobalance		boolean optional	When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing. This parameter is not supported for FlexGroups.
export-policy		string optional	The name of the Export Policy to be used by the NFS protocol. The default policy name for FlexGroups is 'default'.
flexcache-cache-policy		string optional	The name of the FlexCache policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. This parameter is not supported for FlexGroups.
flexcache-fill-policy		string optional	The name of the FlexCache prefill policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. This parameter is not supported for FlexGroups.
flexcache-origin-volume-name		string optional	The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume. This parameter is not supported for FlexGroups.
group-id	**[0..2^32-1]**	integer optional	The UNIX group ID for the volume. The default value for FlexGroups is 0.
is-junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.
is-nvfail-enabled		boolean optional	If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in the volume's constituents due to an NVRAM failure. The volume's constituents would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume's constituents. By default, this value is true.

is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-vserver-root		boolean optional	If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. This parameter is not supported for FlexGroups.
junction-path		string optional	The Junction Path at which the volume is to be mounted. The fully-qualified pathname in the owning Vserver's namespace at which the volume is mounted. The pathname is case insensitive. This string must begin with '/'. In addition, it must not end with '/'. The pathname must be unique within a Vserver's namespace. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. For FlexGroups the following rules apply: The pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. An example of a valid junction path is: '/user/my_volume'. If the junction-path is not specified, the FlexGroup is not mounted.
language-		string	Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are: • 'C' ... POSIX, • 'ar' ... Arabic, • 'cs' ... Czech, • 'da' ... Danish, • 'de' ... German, • 'en' ... English, • 'en_US' ... English (US), • 'es' ... Spanish, • 'fi' ... Finnish, • 'fr' ... French, • 'he' ... Hebrew, • 'hr' ... Croatian, • 'hu' ... Hungarian, • 'it' ... Italian, • 'ja' ... Japanese euc-j, • 'ja_v1' ... Japanese euc-j, • 'ja_JP.PCK' ... Japanese PCK (sjis),

code		optional	• 'ja_JP.932' ... Japanese cp932, • 'ja_JP.PCK_v2' ... Japanese PCK (sjis), • 'ko' ... Korean, • 'no' ... Norwegian, • 'nl' ... Dutch, • 'pl' ... Polish, • 'pt' ... Portuguese, • 'ro' ... Romanian, • 'ru' ... Russian, • 'sk' ... Slovak, • 'sl' ... Slovenian, • 'sv' ... Swedish, • 'tr' ... Turkish, • 'zh' ... Simplified Chinese, • 'zh.GBK' ... Simplified Chinese (GBK), • 'zh_TW' ... Traditional Chinese euc-tw, • 'zh_TW.BIG5' ... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8' to the language code. This parameter is only supported for FlexGroups.
max-constituent-size	**[0..2^63-1]**	integer optional	The maximum size of each constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on all nodes used by the volume. The smallest value found is chosen as the default for the max-constituent-size for the volume. This parameter is only supported on FlexGroups.
max-dir-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which any directory in the volume's namespace can grow. Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.
nodes		node-name[] optional	Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
percentage-snapshot-reserve		integer optional	The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90]
qos-adaptive-policy-group-name		string optional	The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups.
qos-policy-group-name		string optional	The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect.
	[0..2^64-	integer	The initial size of the volume in bytes. If size is not specified, then it will use the system default which is 20MB for FlexVol volumes and

size	**1]**	optional	100GB per constituent for FlexGroups. For FlexGroups, constituents must be a minimum of 100GB. If the constituents are smaller than this, the FlexGroup will perform less than optimally.
snaplock-type		string optional	Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock license has not been installed. EINVALIDINPUT is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running.
snapshot-policy		string optional	The name of the snapshot policy. This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs. The default policy name for FlexGroups is 'default'.
space-guarantee		string optional	Specifies the type of space guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default guarantee is "volume".
space-reserve		string optional	Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume. This field is mutually exclusive with 'space-guarantee'.
space-slo		string optional	Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**. **none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors. **thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported. **semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported. • Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.

			Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: ◦ enabled: true ◦ commitment: destroy ◦ trigger: volume ◦ defer-delete: none ◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share In addition, with a value of semi-thick, the following technologies are not supported for the volume: • File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required. • Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed. • Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies.
storage-efficiency-mode		string optional	This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms. Possible values: • 'default' ... default, • 'efficient' ... efficient
support-tiering		boolean optional	This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
tiering-minimum-cooling-days	**[2..183]**	integer optional	This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data.
tiering-policy		string optional	The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are: • snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • none - Volume blocks will not be tiered to the capacity tier.

			• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is snapshot-only.
unix-permissions		string optional	Unix permission bits in octal string format. It's similar to Unix style permission bits: The default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.
use-mirrored-aggregates		boolean optional	This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
user-id	**[0..2^32-1]**	integer optional	The UNIX user ID for the volume. The default value is 0.
vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. This parameter is not supported for FlexGroups.
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this. This parameter is not supported for FlexGroups.
volume-comment		string optional	A description for the volume being created. The maximum length of the description is 1023 characters.
volume-name		string	Name of the volume to create. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore.
volume-security-style		string optional	The security style associated with this volume. Possible values: • 'mixed' ... Mixed-style security, • 'ntfs' ... NTFS/Windows-style security, • 'unix' ... Unix-style security (default for FlexGroups) Security styles don't apply to GX-striped data volumes.
volume-state		string	Desired state of the volume after it is created. Possible values:

		optional	'online' (default), • 'restricted', • 'offline'
volume-type		string optional	The type of the volume to be created. Possible values: • 'rw' - read-write volume (default), • 'ls' - load-sharing volume, • 'dp' - data-protection volume, • 'dc' - data-cache volume (FlexCache)
vserver-dr-protection		string optional	Specifies the protection type for the volume in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination. This parameter is not supported for FlexGroups.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMERGSIZEINVALID	
EINVALIDINPUTERROR	
ESERVICENOTLICENSED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLALREADYMOUNTED	
EINSUFFICIENTAGGREGATES	
EVOLUMEIMBALANCE	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS	
E_OLV_FLEXGROUP_NAME_TAKEN	
E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_PHANTOM_AGGR	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	

EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_MCC_UNSUPPORTED	
E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED	
E_OLV_FG_VSERVERDR_UNSUPPORTED	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM	
E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MINIMUM	
E_OLV_FG_CREATE_AUTO_AGGRS_FALSE	

volume-destroy

[top]

Destroy the specified volume or plex. If a flexible volume is specified, all of its blocks are freed and returned to its containing aggregate; no other flexible volumes in the same containing aggregate (if any) are affected. If a traditional volume is specified, all of its plexes are destroyed, and its disks are returned to the appropriate spare pool(s). If a plex is specified, it must be for a mirrored aggregate (which could potentially be embedded in a traditional volume), leaving it unmirrored. Only offline volumes and plexes can be destroyed. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for FlexGroups or Infinite Volumes.

Input Name	Range	Type	Description
name		string	Name of an existing volume or plex.

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVOLUME_HAS_VFILER_STORAGE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EOP_DISALLOWED_ON_CLONE_PARENT	
EVOLUME_TYPE_NOT_SUPPORTED	
EVOL_IS_SNAPMIRROR_SOURCE	
EVOL_IS_SNAPMIRROR_SOURCE_DEST	
EVOL_IS_SNAPMIRROR_DEST	
EAUTO_BALANCE_VOLUME_RUNNING	

Vfiler-enabled
Yes

volume-destroy-async

[top]

Destroy a volume. The volume must be unmounted and must be offline before it can be destroyed.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
EAUTO_BALANCE_VOLUME_RUNNING	

volume-encryption-conversion-get-iter

[top]

Display the encryption status of all volumes undergoing encryption

Input Name	Range	Type	Description
desired-attributes		volume-encryption-conversion-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 10
query		volume-encryption-conversion-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-encryption-conversion-	The list of attributes of volume objects.

		info[] optional	
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-encryption-conversion-pause

[top]

Pause Volume Encryption Conversion

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-conversion-resume

[top]

Resume Paused Volume Encryption Conversion

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-conversion-start

[top]

Start Encryption Conversion of a Volume

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	

EINVALIDINPUTERROR	
EVOLUMENOTFOUND	
ESERVICENOTLICENSED	
EKEYMANAGERSETUPNOTFOUND	
EREKEYINPROGRESS	

volume-encryption-rekey-get-iter

[top]

Display the encryption status of all volumes undergoing encryption rekey

Input Name	Range	Type	Description
desired-attributes		volume-encryption-rekey-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 10
query		volume-encryption-rekey-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-encryption-rekey-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-encryption-rekey-pause

[top]

Pause Volume Encryption Rekey

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description

EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-rekey-resume

[top]

Resume Paused Volume Encryption Rekey

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	

volume-encryption-rekey-start

[top]

Rekey a Volume

Input Name	Range	Type	Description
volume		string	Volume Name

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTFOUND	
ESERVICENOTLICENSED	
EKEYMANAGERSETUPNOTFOUND	
EREKEYINPROGRESS	

volume-expand-async

[top]

Allows the user to increase the size of a FlexGroup by adding constituents. The size of the new constituents is determined by the size of the smallest existing constituent.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents.

Input Name	Range	Type	Description
aggr-list		aggr-name[]	Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it.

aggr-list-multiplier	**[1..1000]**	integer optional	Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 1.
volume-name		string	The name of the FlexGroup to expand.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_PHANTOM_AGGR	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	
EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_DOESNT_EXIST	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_EXPAND_NO_QUOTA	
E_OLV_FG_EXPAND_NO_SNAPMIRROR	
E_OLV_FG_EXPAND_NO_DP	

volume-flexgroup-capacity-tier-footprint-get-iter

[top]

Get the current footprint in the capacity tier for FlexGroups.

Input Name	Range	Type	Description
		volume-flexgroup-	Specify the attributes that should be returned. If not present,

desired-attributes		capacity-tier-footprint-info optional	all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-flexgroup-capacity-tier-footprint-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-flexgroup-capacity-tier-footprint-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-flexgroup-deploy-async

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-create-async API without either the 'containing-aggregate' or 'aggr-list' parameters instead.

Deploys a FlexGroup on the cluster.

The FlexGroup is created with 8 constituents on each node in the cluster. The constituents are split equally between the two largest aggregates on each node. If using two aggregrates per node is not possible, all of the constituents are created on the largest aggregate on each node.

This API is only supported on clusters with 4 nodes or less. On clusters with more than 4 nodes, use the volume-create-async API to create FlexGroups.

Input Name	Range	Type	Description
size		integer	The initial size of the new FlexGroup, in bytes. The maximum size of the FlexGroup is limited by the platform maximum FlexVol size multiplied by 8 and multiplied by the number of nodes in the cluster. The size of the FlexGroup is also limited by the available space in the hosting aggregates.

space-reserve		string optional	Specifies the type of volume guarantee the new volume will use. Possible values: none, volume. The default setting on All Flash FAS systems is none, otherwise the default setting is volume. .*
volume-name		string optional	This specifies the name of the FlexGroup. The name of the The FlexGroup can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. The default value for the FlexGroup name is 'fg'.
volume-type		string optional	The type of the volume to be created. Possible values: • 'rw' - read-write volume (default), • 'dp' - data-protection volume,
vserver		string optional	This specifies the Vserver on which the FlexGroup will be located.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE	
E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS	
E_OLV_FLEXGROUP_NAME_TAKEN	
E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP	
E_OLV_AGGR_OFFLINE	
EOP_DISALLOWED_ON_PHANTOM_AGGR	
EOP_DISALLOWED_ON_SNAPLOCK_AGGR	
EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_MCC_UNSUPPORTED	
E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED	
E_OLV_FG_VSERVERDR_UNSUPPORTED	
E_OLV_FG_TOO_MANY_CONSTITUENTS	
E_OLV_OPERATIONS_CONFLICT	
E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FG_DEPLOY_TOO_MANY_FLEXGROUPS	
E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS	

E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_FAILED	
E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_AND_ROLLBACK_FAILED	
E_OLV_FG_DEPLOY_AGGREGATE_CREATE_FAILED	
E_OLV_FG_DEPLOY_AGGREGATE_CREATE_AND_ROLLBACK_FAILED	
E_OLV_FG_DEPLOY_NOT_ENOUGH_AGGREGATES	
E_OLV_FG_DEPLOY_NOT_ENOUGH_VALID_AGGREGATES	
E_OLV_FG_DEPLOY_VSERVER_CREATE_FAILED	
E_OLV_FG_DEPLOY_VSERVER_CREATE_AND_ROLLBACK_FAILED	

volume-flexgroup-deploy-simulate-aggr-layout

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-flexgroup-get-create-limits API instead.

Get the aggregate layout that will be created when deploying a FlexGroup.

Return calculated number of aggregates, estimated aggregate capacity, disk count and disk type.

Output Name	Range	Type	Description
aggr-count		integer	The number of aggregates that will be created.
aggr-size		integer	The expected size of each aggregate.
disk-count		integer	Total number of disks used for each aggregate.
disk-type		string	Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK.

Errno	Description
EINTERNALERROR	
EAGGREXISTS	
E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS	

volume-flexgroup-get-create-limits

[top]

Get a preivew of FlexGroup creation. If manually selecting the aggregates to create the FlexGroup, this API will return the minimum and maximum size allowable for the FlexGroup. If using auto provisioinig, this API will return the minimum and maximum size allowable, along with the type of disks that can support the maximum allowable size. If a size is specified, the API will also return the list of aggregates that will be used to create a FlexGroup of the requested size, along with the type of disks that would be used. If a size is specified and a FlexGroup cannot be provisioned for the specified size, the API will not return an error when using auto provisioning. An error is only returned for auto provisioning if no FlexGroup of any size can be created on any aggregates.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it.
			Specifies the number of times to iterate over the aggregates listed

aggr-list-multiplier	**[1..1000]**	integer optional	with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. This parameter is only supported when getting the create limits of a FlexGroup using the aggr-list parameter. Default aggr-list-multiplier is 4.
auto-provision-as		string optional	
encryption-type		integer optional	This parameter specifies the encryption-type of the FlexGroup created where the system automatically creates aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
nodes		node-name[] optional	Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used . This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
size	**[0..2^64-1]**	integer optional	The initial size of the volume in bytes. If size is not specified, then it will use the system default which is the number of constituents times 200MB for FlexGroups.
space-guarantee		string optional	Specifies the type of space guarantee the new volume will use. Possible values: none, volume.
support-tiering		boolean optional	Use this parameter to specify whether FabricPools are selected when creating a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
use-mirrored-aggregates		boolean optional	This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
volume-type		string optional	The type of the volume to be created. Possible values: • "rw" - read-write volume (default setting), • "ls" - load-sharing volume, • "dp" - data-protection volume, • "dc" - data-cache volume (FlexCache)

Output Name	Range	Type	Description
			The number of aggregates the FlexGroup will be created on. This

chosen-aggr-count		integer optional	parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
chosen-aggr-list		aggr-name[] optional	The aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
chosen-aggr-type		string optional	The disk type of the aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
chosen-create-error		string optional	If the size parameter is specified, and creating a FlexGroup at that size is not possible, the error string indicating why will be returned via the chosen create-error parameter.
chosen-provider-type		string optional	The object store provider type of the FabricPools the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true.
max-create-aggr-type		string optional	The disk type of the aggregates that supports the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
max-create-provider-type		string optional	The object store provider type of the FabricPools that support the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true.
max-create-with-dedupe	**[0..2^64-1]**	integer	The maximum sized FlexGroup that can be created with deduplication.
max-create-without-dedupe	**[0..2^64-1]**	integer	The maximum sized FlexGroup that can be created without deduplication.
max-sizes		flexgroup-max-size-entry[] optional	An array of maximum FlexGroup sizes that can be created for each type of disks on the cluster. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates.
min-create	**[0..2^64-1]**	integer	The minimum sized FlexGroup that can be created. This is based on a minimum constituents size of 100GB.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-flexgroup-get-expand-limits

[top]

Get the minimum and maximum expand limits for a FlexGroup.

Input Name	Range	Type	Description
volume-name		string	This specifies the name of the FlexGroup you want the the limits for.

Output Name	Range	Type	Description

max-aggr-list-with-dedupe		aggr-name[]	Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, with deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it.
max-aggr-list-without-dedupe		aggr-name[]	Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, without deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-flexgroup-get-resize-limits

[top]

Get the minimum and maximum resize limits for a FlexGroup.

Input Name	Range	Type	Description
volume-name		string	This specifies the name of the FlexGroup you want the the limits for.

Output Name	Range	Type	Description
max-resize-with-dedupe		integer	The maximum a FlexGroup can be resized to with deduplication.
max-resize-without-dedupe		integer	The maximum a FlexGroup can be resized to without deduplication.
min-resize		integer	The minimum a FlexGroup can be resized to.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	

volume-footprint-get-iter

[top]

Display a list of volumes and their data and metadata footprints in their parent aggregate. The term footprint is used to refer to space that is considered used in an aggregate due to data in a specific volume. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

Input Name	Range	Type	Description
		footprint-	Specify the attributes that should be returned. If not present, all

desired-attributes		info optional	attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		footprint-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-footprint object. All volume-footprint objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		footprint-info[] optional	The list of attributes of volume-footprint objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume-footprint objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-get-filer-info

[top]

Get information on what possibilities and parameters exist for volumes on a given filer.

Output Name	Range	Type	Description
allowed-raidtypes		raidtype-info[]	List of RAID types allowed for aggregates on this filer.
checksum-types		string	Checksum types supported by this filer. The possible values: • "zoned" - if all aggregates are Fixed VBN, • "block" - if all aggregates are Block Appended, • "mixed" - if aggregates are mixed (Fixed VBN and Block Appended and Advanced Zoned), • "none" - if no aggregates have zoned or block checksums or advanced_zoned checksum (azcs) or mixed, • "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme.
default-raidtype		string	Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: raid0, raid4, raid_dp, raid_tec.
disk-types		string	Type of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks 520 BPS "4096" if all disks 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS "none" if no disks have 512 or 520 or 4096 BPS.
raidgroup-size		raidgroup-size-info[]	List of the RAID group sizing parameters for each RAID type supported on this filer.

root-volume		string	Current root volume on the filer.
snapshots-max		integer	Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1].

Errno	Description
EINTERNALERROR	

volume-get-iter

[top]

Iterate over a list of volume objects.

Input Name	Range	Type	Description
desired-attributes		volume-attributes optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-attributes optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		volume-attributes[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-get-language

[top]

Get the given volume's language mapping.

Input Name	Range	Type	Description
volume		string	Name of the volume for which we want the language mapping.

Output Name	Range	Type	Description
			Set to the volume's language mapping, in the form "LanguageCode (Full

language		string	Name)" (e.g. "en_US (English (US))"). For more information on these values, see 'volume-create'.
language-code		string	Set to the volume's language code, suitable for use as an argument to other functions (e.g. "en_US"). For more information on these values, see 'volume-create'.
nfs-character-set		string	The NFS language mapping character set that is currently in effect for the volume. This field is of the following format: "<nfs-character-set>|<display-name>|<asctime>" Note that "|" is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12." It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d" This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year> E.g., If the volume language code is set to "en_US", the default NFS character set is as follows: "iso-8859-1|iso-8859-1|Thu Oct 1 15:00:53 PDT 1998"
oem-character-set		string	The OEM language mapping character set that is currently in effect for the volume. This field is of the following format: "<oem-code-page>|<display-name>|<asctime>" Note that "|" is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12." It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d" This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year> E.g., If the volume language code is set to "en_US", the default NFS character set is as follows: "cp437|cp437|Thu Oct 1 15:00:53 PDT 1998"

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-get-root-name

[top]

Return the name of the "root" volume on the filer. If this request is executed in the context of a vfiler, the "root" volume of the vfiler will be returned. If this request is executed in the context of a Vserver the "namespace root" volume of the Vserver will be returned. If the "namespace root" volume of the Admin Vserver is requested, EVSERVER_OP_NOT_ALLOWED will be returned.

Output Name	Range	Type	Description
volume		string	Name of the root volume for the filer.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	

Vfiler-enabled
Yes

volume-get-supported-guarantees

[top]

Returns the list of guarantee types that are supported on this volume. This just does semantic checks and so enabling supported guarantees can still fail because of space checks.

Input Name	Range	Type	Description
volume		string	Name of the volume. Ex: flex1, vol0 etc.

Output Name	Range	Type	Description
guarantee-types		guarantee[]	List of guarantee types supported on this volume.

Errno	Description
EVOLUMEDOESNOTEXIST	
EINTERNALERROR	
EOPNOTSUPPORTED	

Vfiler-enabled
Yes

volume-get-volume-path

[top]

Return the junction-path of the volume.

Input Name	Range	Type	Description
is-style-cifs		boolean	CIFS-style-flag
volume		string	Volume Name

Output Name	Range	Type	Description
junction		string	Junction Path

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EVSERVERNOTFOUND	

volume-list-info

[top]

Get volume status. Note that all RAID-related status items (e.g., 'raid-size', 'raid-status', 'checksum-style') reported for a flexible volume actually describe the state of its containing aggregate.

Input Name	Range	Type	Description
verbose		boolean optional	If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned.
volume		string optional	The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer. Note that if status information for more than 20 volumes is desired, the volume-list-info-iter-* zapis will be more efficient and should be used instead.

Output Name	Range	Type	Description
volumes		volume-info[]	List of volumes and their status information.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVSERVERNOTFOUND	
EMISSINGVSERVERARGUMENT	
ENODENOTFOUND	
ESNAPMIRRORDESTINATIONBUSY	

Vfiler-enabled
Yes

volume-list-info-iter-end

[top]

Terminate a list iteration and clean up any saved info.

Input Name	Range	Type	Description
tag		string	Tag from a previous volume-list-info-iter-start.

Vfiler-enabled
Yes

volume-list-info-iter-next

[top]

Continues an iteration through the list of volumes.

Input Name	Range	Type	Description
maximum		integer	The maximum number of entries to retrieve.
tag		string	Tag from a previous volume-list-info-iter-start.

Output Name	Range	Type	Description
records		integer	This tells you how many records are being returned from this particular call to volume-list-info-iter-next. When this value is 0, you have retrieved everything.
volumes		volume-info[]	List of volumes and their status information. See volume-list-info for a description of type volume-info.

Vfiler-enabled
Yes

volume-list-info-iter-start

[top]

Starts an iteration through the list of volumes.

Input Name	Range	Type	Description
verbose		boolean optional	If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned.
volume		string optional	The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer.

Output Name	Range	Type	Description
records		integer	This tells you the number of items that have been saved for future retrieval with volume-list-info-iter-next.
tag		string	Tag to be used in subsequent iterations.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	

Vfiler-enabled
Yes

volume-mediascrub-list-info

[top]

Get the RAID media scrubbing status on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing.

Input Name	Range	Type	Description
volume		string optional	Name of traditional volume, plex or RAID group for which media scrub status is desired. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing.

Output Name	Range	Type	Description
mediascrub-details		mediascrub-detail-info[]	List of RAID groups and their media scrub status.

Errno	Description
EINTERNALERROR	

volume-mirror

[top]

Turns an unmirrored traditional volume into a mirrored traditional volume by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-volume" option is specified, is taken from another existing unmirrored volume. The volume must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" argument list option in the same way as with the 'volume-create' and 'volume-add' APIs. The number of disks specified must exactly match the number present in the existing traditional volume. If the disks to use are not explicitly specified, then the appropriate disks are automatically selected to match those already in the traditional volume's existing plex. It is not possible to directly mirror a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-mirror' to mirror that aggregate (which, of course, will case all other volumes contained in the given aggregate to become mirrored as well).

Input Name	Range	Type	Description
force		boolean optional	Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. This safety-drive behavior is overridden when the 'force' option is provided and set to 'true'.
mirror-disks		disk-info[] optional	Specific list of mirror disks to use. It must have the same number of disks as are present in the given traditional volume. The specified disks are not permitted to span disk pools; this behavior can be overridden with the "force" argument.
victim-volume		string optional	The "victim" traditional volume to cannibalize in order to mirror the given traditional volume. The result is a mirrored traditional volume that is otherwise identical to the original volume before the operation. The "victim-volume" is effectively destroyed. "victim-volume" must have been previously mirrored with this volume, then separated via the "volume-split" command. "victim-volume" must be offline.

volume		string	Name of the traditional volume to be mirrored.

Output Name	Range	Type	Description
bad-disks		disk-info[] optional	List of disks that were not added. This is only returned if there are bad disks.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMEDISKDUP	

volume-modify-iter

[top]

Modify the attributes of a volume or a group of volume objects.

This API is not supported for Infinite Volumes or FlexGroups.

Input Name	Range	Type	Description
attributes		volume-attributes	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
query		volume-attributes	If modifying a specific volume, this input element must specify all keys. If modifying volume objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were successfully updated. If set to false, the list of volume objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		volume-modify-iter-info[] optional	Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching volume objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of volume objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of volume objects that matched the query and were successfully updated.
success-list		volume-modify-iter-info[] optional	The volume objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EOPNOTSUPPORTED	

volume-modify-iter-async

[top]

Modify the attributes of an Infinite Volume, FlexGroup or a group of Infinite Volumes and FlexGroups.

Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation of expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initilization is complete. While in a 'mixed' state, further operations of the Infinite Volume are not possible.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents. This API does not require any license when operating on an Infinite Volume.

Input Name	Range	Type	Description
attributes		volume-attributes	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20
		volume-	If modifying a specific volume, this input element must specify all

query		attributes	keys. If modifying volume objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of volume objects (just keys) that were successfully updated or scheduled for update. If set to false, the list of volume objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		volume-modify-iter-async-info[] optional	Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching volume objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of volume objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of volume objects that matched the query and were successfully updated or scheduled for update.
success-list		volume-modify-iter-async-info[] optional	The volume objects that were successfully updated or scheduled for update. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	

volume-mount

[top]

Mount a volume on another volume (parent) with a junction-path. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
activate-junction		boolean optional	This field optionally specifies whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, it does not appear in the owning Vserver's namespace.
export-policy-override		boolean optional	This field optionally specifies whether the parent volume's export policy overrides the mounted volume's Export Policy. The default is false.
			The Junction Path. The fully-qualified pathname in the owning Vserver's namespace at which

junction-path		string	a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's context. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An Infinite Volume has the additional restriction of allowing only one element. An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'. Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If this volume is mounted at a different junction path, or if another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned.
volume-name		string	The name of the volume.

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOL_ALREADY_MOUNTED	
EVOL_MOUNT_FAILED	
EJUNCTION_CREATE_FAILED	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-move-get-iter

[top]

Get status of move operation

Input Name	Range	Type	Description
desired-attributes		volume-move-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-move-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description

attributes-list		volume-move-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-move-pause

[top]

Pause running volume move operation.

Input Name	Range	Type	Description
volume		string	Volume Name
vserver		string	Vserver Name

Errno	Description
EAPIERROR	
EVOLUMEDOESNOTEXIST	
EVOLUME_MOVE_COMPLETED	

volume-move-resume

[top]

Resume running volume move operation.

Input Name	Range	Type	Description
volume		string	Volume Name
vserver		string	Vserver Name

Errno	Description
EAPIERROR	
EVOLUMEDOESNOTEXIST	
EVOLUME_MOVE_COMPLETED	

volume-move-start

[top]

Initially this API will run a series of checks to determine if the volume can be moved. If any of the checks results in an error or warning, the API will return with an error. The user has to take the necessary corrective action before restarting the move. If all the checks pass, the API will return a success. If "perform-validation-only" is set to true, all the errors and warnings encountered from the

checks will be returned in the errors-warnings output element. The API will return successfully, and the move will not be initiated. By default "perform-validation-only" is false, which means that the destination volume will be created and the move will start. A flexvol can be moved to any aggregate in the cluster, but if the flexvol is a member of an infinite volume it can only be moved to any eligible aggregate within the same vserver. The list of eligible aggregates can be obtained using the "volume-move-target-aggr-get-iter" API. The Cluster-mode API, supports the actions of "cutover-window", "cutover-attempts" and "cutover-action".The status of the move job can be obtained by using the "volume-move-get-iter" API and "job-get" or "job-get-iter" APIs. If the move fails an EMS message will be generated. The reason for the failure can be obtained from the volume-move-get-iter API.

Input Name	Range	Type	Description
allow-mixed-aggr-types		boolean optional	To allow FlexGroup volume constituents move from a FabricPool to a non-FabricPool, or vice versa. This option is not applicable for Flex Volume move.
cutover-action		string optional	Specifies the action to be taken for cutover. Possible values are "abort_on_failure", "defer_on_failure", "force" and "wait". Default is "defer_on_failure". If "abort_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted, and cleanup if it fails to cutover. If "defer_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted and move into "cutover deferred" state if it fails to cutover. This is the default option. The volume move job waits for intervention to restart the cutover process again. If "force" action is specified, the job will try cutover till the cutover-attempts are exhausted and force the cutover at the expense of disrupting the clients. If "wait" action is specified, when the job hits the decision point, it will not go into cutover automatically, instead it will wait for the user to issue a "volume-move-trigger-cutover" command as the signal to try the cutover.
cutover-attempts	**[1..25]**	integer optional	Number of cutover attempts. Default value is 3
cutover-window	**[30..300]**	integer optional	Time interval to complete cutover in seconds. Default value for Data ONTAP Cluster-Mode volume move is 30 seconds. Default value for Data ONTAP 7-mode volume move is 60 seconds.
dest-aggr		string	Name of the destination aggregate
encrypt-destination		boolean optional	To encrypt destination volume.
encrypt-with-aggr-key		boolean optional	To encrypt destination volume as NAE (NetApp Aggregate Encryption).
generate-destination-key		boolean optional	To generate new encryption key for destination volume.
perform-validation-only		boolean optional	Run pre-checks for the move, return all the errors and warning messages encountered during the checks in the errors-warnings element and exit. The move will not be triggered. Default is false.
source-volume		string	Name of the volume that must be moved
tiering-policy		string optional	The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are: • snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • none - Volume blocks will not be tiered to the capacity tier.

			backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is snapshot-only.
vserver		string optional	Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string optional	The operation status. Possible values: "succeeded", "in_progress", "failed".
volume-move-dedup-warnings		errors-warnings-info[] optional	Volume Move Dedup Warnings
volume-move-error-codes		volume-move-error-code[] optional	Error codes

Errno	Description
EINVALIDINPUTERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENAMEINVALID	
EVOLUMENOTONLINE	
EAGGRDOESNOTEXIST	
EAGGRNOTONLINE	
EALREADYSTARTED	
EAPIMISSINGARGUMENT	
EINVALIDINPUTERROR	
EINVALIDSTATE	
ENOTSTARTED	
EONTAPI_EALREADY	
EVFILEROPNOTALLOWED	
EVOLAGGRISIRONING	
EVOLUME_TYPE_NOT_SUPPORTED	
EVOL_CIFS_ENABLED	
EVOL_ONLINE_ERROR	
EVOL_TOO_MANY	
EVOLUME_ADMINOP_NOT_FENCED	
EVOL_NFS_ENABLED	
EOP_DISALLOWED_ON_BUSY_MIRROR	
EOP_DISALLOWED_ON_LOADSHARING_VOL	
EOP_DISALLOWED_ON_CLONE_PARENT	
EOP_DISALLOWED_ON_BACKUP_ACTIVE_VOL	
EOP_DISALLOWED_ON_STRIPED_VOL	

EOP_DISALLOWED_ON_COMPRESSED_VOL	
EOP_DISALLOWED_ON_7MODE_VOL	
EOP_DISALLOWED_ON_STRIPED_AGGR	
EOP_DISALLOWED_ON_VOL_ALREADY_ON_AGGR	
EOP_DISALLOWED_ON_ROOT_AGGR	
ESNAPMIRROR_NOT_INITIALIZED	
EONTAPI_ENOSPCAGGR	
ENDMPRUNNING	
EVOLISGRIDIRONING	
EVOLMOVE_NDMP_DUMPS_RUNNING	
EVOLMOVE_NDMP_RESTORE_RUNNING	
EVOLMOVE_SIS_UNDO_RUNNING	
E_VOL_MOVE_INCOMPATIBLE_VERSION	
E_VOL_MOVE_DC_NOT_ALLOWED	
ENODENOTFOUND	
E_OP_DISALLOWED_ON_AGGR_NOT_IN_VSERVER_LIST	
E_OP_UNSUPPORTED_NO_SPACE_ON_DESTINATION_AGGR	
EVOLUME_RELSTATUS_UNKNOWN	
EINTERNALERROR	
ESNAPMIRRORNOTSUPPORT	
ESNAPMIRRORVOLNOTFOUND	
ESNAPMIRRORINVALIDINPUT	
ESNAPMIRRORINVALIDUUID	
EAPIMISSINGARGUMENT	
ENOMEM	
EVSERVER_OP_NOT_ALLOWED	
ECANNOT_MOVE_TRANSITION_VOLUME	
EVOL_CLONE_BEING_SPLIT	
EVOLMOVE_CANNOT_MOVE_TO_CFO	
EVOLMOVE_CANNOT_MOVE_FROM_CFO_AGGR_IN_TAKEOVER	
E_SAN_MISSING_REQUIRED_LIFS	
E_SAN_NOT_READY	
EVOLMOVE_RECALLING_LOCKS	
EOP_NOTICE_CLONE_PARENT_MOVE	
EOP_NOTICE_NVFAILED_STATE_MOVE	
EOP_NOTICE_CLONE_MOVE_WITH_AUTODELETE_DESTROY	
EOP_NOTICE_CLONE_CHILD_MOVE	
EOP_NOTICE_MOVE_TO_NON_HYBRID_AGGR	
EOP_NOTICE_MOVE_TO_ENCRYPTION	
EOP_NOTICE_MOVE_FROM_ENCRYPTION	
EOP_NOTICE_IDEDUP_MOVE_TO_HYA	
EOP_NOTICE_NO_IDEDUP	
EOP_NOTICE_CROSSVOL_SAVING_LOSS	
EOP_NOTICE_NO_CROSSVOL_IDEDUP_ON_ENCRYPTED	
EOP_NOTICE_CROSSVOL_IDEDUP_MOVE_TO_NON_AFF	
EOP_NOTICE_CROSSVOL_RESUME	
EOP_NOTICE_AUTO_POLICY_MOVE_TO_NON_AFF	
EOP_MOVE_NOTICE_MOVE_DST_MIRROR	

E_FG_CONSTITUENT_MOVE_TIERING_POLICY_NOT_NONE	
EFULL_SYNC_WARNING	
EOP_NOTICE_MOVE_WITH_REKEY	
E_NVMF_LIF_REQUIRED	
E_VOL_MOVE_NVMF_NAMESPACE_NOT_SUPPORTED	
EOP_NOTICE_FC_ORIGIN_STATUS_CHANGE	
EOP_NOTICE_FC_TO_PLAIN_TEXT	

volume-move-target-aggr-get-iter

[top]

Scans aggregates and returns a list of compatible target aggregates for the given volume move operation.

Input Name	Range	Type	Description
allow-mixed-aggr-types		boolean optional	Allow Mixing FabricPool and non-FabricPool
desired-attributes		volume-move-target-aggr-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-tiering-policy		string optional	Volume Tiering Policy
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		volume-move-target-aggr-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
volume-name		string	Volume Name (Required field)
vserver		string	Vserver Name (Required field)

Output Name	Range	Type	Description
attributes-list		volume-move-target-aggr-info[] optional	The list of attributes of volume objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EOBJECTNOTFOUND	

Errno	Description
EINTERNALERROR	
EOP_DISALLOWED_ON_7MODE_VOL	
EVOLUMENOTONLINE	

volume-move-trigger-abort

[top]

Stop a running volume move operation.

This is an asynchrous API call and it does not wait for the abort to finish before returning. volume-move-get-iter can be used to monitor the progress of the abort and get the status. Unlike 'job stop', this API makes it possible to stop a move job by the vserver and volume name. If the specified volume has completed the volume move operation, an error is returned.

Input Name	Range	Type	Description
source-volume		string	The volume that is part of a completed or running volume move operation.
vserver		string	Vserver Name

Errno	Description
EAPIERROR	
EVOLUMEDOESNOTEXIST	
EVOLUME_MOVE_COMPLETED	

volume-move-trigger-cutover

[top]

Trigger cutover of a move job

Input Name	Range	Type	Description
force		boolean optional	Force cutover
source-volume		string	The name of the volume.
vserver		string optional	Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes.

Errno	Description
EOBJECTNOTFOUND	
EJOBNOTINCUTOVERDEFERRED	
EVSERVER_OP_NOT_ALLOWED	

volume-offline

[top]

Take the specified volume or plex offline, making it unavailable for both user-level data access and RAID-level access (unless it's a flexible volume, at which time its containing aggregate is not affected in

any way, and will remain fully online). The operation takes effect before the API returns except in maintenance mode, when the current root volume may not be taken offline. A volume marked to become the root cannot be taken offline. Taking a flexible volume offline does not affect its containing aggregate in any way. A number of operations being performed on the given volume (or its containing aggregate) can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the command is aborted. A check is also made for files on the volume opened by internal ONTAP processes. The command is aborted if any are found. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
cifs-delay		integer optional	If a volume contains CIFS shares, users should be warned before taking the volume offline. This argument specifies the number of minutes to delay before taking the volume offline, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be taken offline immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0.
name		string	Name of an existing volume or plex. If a volume contains CIFS shares, users should be warned before taking the volume offline. Use "cifs-delay" to specify number of seconds to wait. If a plex is specified, the plex must be part of a mirrored volume, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online.

Errno	Description
EINTERNALERROR	
EVOLUMECIFSTERMINATE	
EVOLUMEBUSY	
EVOLUMEOFFLINE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_IS_ONDEMAND_SOURCE	
EVOLUME_IS_ONDEMAND_DEST	

Vfiler-enabled
Yes

volume-offline-async

[top]

Take the specified volume offline, thereby making it unavailable for data access. The volume must be unmounted before it can be made offline.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-online

[top]

Bring the specified volume or the plex online. This command takes effect immediately. If there are CIFS shares associated with the volume, they are enabled. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

Input Name	Range	Type	Description
name		string	Name of an existing volume or plex. If a volume is specified, it must be currently offline, restricted, or foreign. If the volume is foreign, it will be made native before being brought online. A ``foreign'' volume is a traditional volume that consists of disks moved from another filer and that has never been brought online on the current filer. Traditional volumes that are not foreign are considered ``native.'' If the volume is inconsistent, but has not lost data, it is advisable to run WAFL_check or wafliron (or do a 'snapmirror initialize' in case of a replica volume) prior to bringing an inconsistent volume online. Bringing an inconsistent volume online increases the risk of further file system corruption. If the volume is inconsistent and has experienced possible loss of data, it cannot be brought online unless WAFL_check or wafliron (or 'snapmirror initialize') has been run on the volume. If a plex is specified, the plex must be part of an online mirrored traditional volume or aggregate. The system will initiate resynchronization of the plex as part of online processing.

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOLUME_UNSUPPORTED_OPTION_VMALIGN	

EAGGR_UNSUPPORTED_OPTION_CONTROLLER_REPLACEMENT_TRANSITION	
EVOLUME_UNSUPPORTED_OPTION_SIDL	

Vfiler-enabled
Yes

volume-online-async

[top]

Bring the specified volume online.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVOLUME_HAS_VFILER_STORAGE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-options-list-info

[top]

Get the options that have been set for the specified volume.

Input Name	Range	Type	Description
volume		string	Name of the existing volume for which we want option information.

Output Name	Range	Type	Description
options		volume-option-info[]	List of options set for this volume.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-rehost

[top]

Rehosts a volume from one Vserver into another Vserver. Since volume rehost is a disruptive operation, administrators must stop all data access on target volume before rehosting. On success, target volume is available for data access under destination Vserver. Upon failure the rehost operation is reverted and target volume is available under source Vserver.

Input Name	Range	Type	Description
auto-remap-luns		boolean optional	Flag to control automatic map of LUNs. Default value for this flag is 'false' which means LUNs will not be mapped. Administrators may choose to either manually map LUNs or set this flag to 'true' for automatic map of LUNs.
destination-vserver		string	Destination Vserver name where target volume must reside after successful volume rehost operation
force-unmap-luns		boolean optional	Flag to control automatic unmap of LUNs. Default value for this flag is 'false' which means LUNs will not be unmapped. Administrators may choose to either manually unmap LUNs or set this flag to 'true' for automatic unmap of LUNs.
volume		string	Target volume name
vserver		string	Source Vserver name to which target volume belongs

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EVOLUMEBUSY	
EVRH_PRECHECK	
EVRH_MAX_VOL	
EVRH_MAP_LUN	
EVRH_IN_RELATION	
EVRH_VOL_MOVE_IN_PROGRESS	
EVRH_VOL_NAME_COLLISION	
EVRH_VOL_JUNC_PRESENT	

volume-rename

[top]

Renames the specified volume to a new name specified by "new-volume-name". If the volume is referenced in the /etc/exports file, remember to make the name change in /etc/exports also so that the affected file system can be exported by the filer after the filer reboots. The "volume-rename" command

does not automatically update the /etc/exports file.

This API is not supported for Infinite Volumes or FlexGroups. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

Input Name	Range	Type	Description
new-volume-name		string	New volume name.
volume		string	Name of an existing volume.

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-rename-async

[top]

Renames the specified volume to a new name specified by "new-volume-name".

This API is not supported for Flexible Volumes or Infinite Volume constituents. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

Input Name	Range	Type	Description
new-volume-name		string	New name of the volume.
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMENAMEINVALID	
EVOLUMEBUSY	

EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-restrict

[top]

Restrict the specified volume, making it unavailable for user-level data access but leaving it (or its containing aggregate, if it's a flexible volume) available to internal OnTAP RAID-level access.

This API is not supported for Infinite Volumes. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
cifs-delay		integer optional	If a volume contains CIFS shares, users should be warned before restricting the volume . This argument specifies the number of minutes to delay before restricting the volume, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be restricted immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0.
name		string	Name of the volume to restrict.

Errno	Description
EINTERNALERROR	
EVOLUMECIFSTERMINATE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-restrict-async

[top]

Restrict the specified volume making it unavailable for data access.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
volume-name		string	Name of an existing volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-		string	

message		optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	
EVOLUME_HAS_VFILER_STORAGE	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-scrub-list-info

[top]

Get the status of RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing scrubbing. Scrubbing status includes a percent-complete value and its suspended status (if any).

Input Name	Range	Type	Description
name		string optional	Name of an existing traditional volume, plex, or RAID group. If no name is given, then status is generated for all RAID groups currently being scrubbed.
verbose		boolean optional	If set to "true", this operation will be verbose. If not supplied or set to 'false', normal output levels will be used.

Output Name	Range	Type	Description
scrub-details		scrub-detail-info[]	List of RAID groups and their scrub status.

Errno	Description
EINTERNALERROR	

volume-scrub-resume

[top]

Resume RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then resume scrubbing on all RAID groups for which it is suspended.

Input Name	Range	Type	Description
name		string optional	Name of the existing traditional volume, plex, or RAID group for which the scrubbing is to resume.

Errno	Description

Errno	Description
EINTERNALERROR	

volume-scrub-start

[top]

Start RAID parity scrubbing on the named traditional volume, plex, or RAID group. RAID parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If a plex name is given, then scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, then scrubbing is started only in that RAID group. If no name is given, then scrubbing is started on the RAID groups within all online traditional volumes and aggregates. Use 'volume-scrub-list-info' to check scrub status.

Input Name	Range	Type	Description
name		string optional	Name of an existing traditional volume, plex, or RAID group.

Errno	Description
EINTERNALERROR	

volume-scrub-stop

[top]

Stop RAID parity scrubbing on the named volume, plex, or group; if no name is given, on all RAID groups currently undergoing parity scrubbing.

Input Name	Range	Type	Description
name		string optional	Name of an existing volume, plex, or raid-group.

Errno	Description
EINTERNALERROR	

volume-scrub-suspend

[top]

Suspend RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, suspend scrubbing on all RAID groups currently being scrubbed.

Input Name	Range	Type	Description
name		string optional	Name of an existing traditional volume, plex, or RAID group.

Errno	Description
EINTERNALERROR	

volume-set-language

[top]

Set the given volume's language mapping.

Input Name	Range	Type	Description
language-code		string	The new language mapping for the volume. For a list of legal language mapping values, see 'volume-create'.
volume		string	Name of the volume that is to have its language mapping changed.

Errno	Description
EINTERNALERROR	
EVOLUMEDOESNOTEXIST	
EVOLUMENOTONLINE	
EVOLUMEBUSY	

Vfiler-enabled
Yes

volume-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the specified volume. The change remains effective even after the filer is rebooted. Some options have values that are numbers or strings, and others have values that are 'on' (also expressible as 'yes', 'true', or '1') or "off" (also expressible as 'no', 'false', or '0'). A mixture of uppercase and lowercase characters may be used for an option's value. Note that the 'root' option is special in that it does not have an associated value. Also, note that some of these options can NOT be set for a flexible volume, as they relate only to aggregates (either free-standing ones or those embedded in traditional volumes). Other options may only apply for flexible volumes.

Input Name	Range	Type	Description
			Name of the option to be set. Possible values: "convert_ucode" (value: "on" | "off") Setting this option to "on" forces conversion of all directories to UNICODE format when accessed from both NFS and CIFS. By default, it is set to "off", in which case access from CIFS causes conversion of pre-4.0 and 4.0- format directories. Access from NFS causes conversion of 4.0 format directories. This option cannot be set on a Cluster-Mode volume unless it was transitioned from 7-Mode. "snapshot_clone_dependency" (value: "on" | "off") Setting this option "on" will unlock all initial and intermediate backing snapshots for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked. If the option is "off" the backing snapshot will remain locked until all intermediate backing snapshots are deleted. This option is not valid for a Cluster-Mode volume. "create_reserved" This option is no longer supported. "create_ucode" (value: "on" | "off") Setting this option to "on" forces UNICODE format directories to be

created by default, both from NFS and CIFS. The default value is "off", in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. This option cannot be set on a Cluster-Mode volume.

"extent" (value: "on" | "space_optimized" | "off")
Setting this option to "on" enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. Using extents may help workloads that perform many small random writes followed by large sequential reads. However, using extents may increase the amount of disk operations performed on the filer, so this option should only be used where applicable. The default value is "off", in which case extents are not used. The value "space_optimized" indicates extent updates will not duplicate snapshot blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes.

"fractional_reserve" (value: < number >)
This option decreases the amount of space reserved for overwrites of reserved objects (LUNs, files) in a volume. The option is set to 100 by default and indicates that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites. The value can vary from 0 to 100. Using a value of less than 100 indicates what percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion.

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken, or when a "vol/aggr add" is performed on it. This option is automatically set to be "on" when a volume becomes a SnapMirrored. It remains "on" after the "snapmirror break" command is issued for the volume. This option allows a volume to be SnapMirrored back to the source without needing grow the source volume. If the volume size is larger than the file system size, turning off this option forces the file system to grow to the size of the volume.

"guarantee" (value: "none" | "file" | "volume")
Flexible volumes only. Setting this option controls the type of space reservation for the named flexible volume. There are three possible settings. The first, "none", provides no guarantee that there will be enough blocks in the containing aggregate to meet the flexible volume's needs. The second, "file", guarantees there will be enough blocks in the containing aggregate to meet the needs of the specified files in the flexible volume. The third, "volume", is the default setting and guarantees there will be enough blocks available in the containing aggregate to meet the entire flexible volume's needs. An error will be returned if an attempt is made to set this option on a traditional volume.

"ignore_inconsistent" (value: "on" | "off")
This option can only be set in maintenance mode. If set to "on", then the root volume may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency.

"maxdirsize" (value: < number >)
Set the maximum size (in KBytes) to which any directory can grow. The default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this option's setting. This option is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.

"max_write_alloc_blocks" (value: < number >)
Set the maximum number of blocks used for write allocation. The default setting, 0, uses the system-wide default number of blocks, which should be optimal for most users. Some sequential read workloads may benefit from increasing this value. On rare occasions, some multi-stream sequential write workloads may benefit from decreasing this value. Range: [0..2048].

"minra" (value: "on" | "off")
Setting this option to "on" causes the filer to perform minimal read-ahead on this volume. By default, this option is "off", causing the filer to perform very aggressive read-ahead on the volume.

"no_atime_update" (value: "on" | "off")
Setting this option to "on" prevents the update of inode access times when a file is read. This option is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files. It should be used carefully. That is, use this option when you know in advance that the correct access time for inodes will not be needed for files on that volume.

"no_i2p" (value: "on" | "off")
Setting this option to "on" disables inode to parent pathname translations on the volume. The default setting is off.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the volume. This option is not supported for Cluster-Mode volumes.

"nosnapdir" (value: "on" | "off")
Setting this option to "on" disables the visible .snapshot directory that is normally present at system internal mount points. It also turns off access to all other .snapshot directories in the volume.

"nvfail" (value : "on" | "off")
If this option is on, the filer performs additional work at boot time if it finds that there has been any potential data loss due to an NVRAM failure. In such situations, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not

option-name		string	continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The filer sends error messages to the console whenever such problems are found. "raid_cv" (value: "on" | "off") **Traditional** volumes only. Setting the option to "off" disables block checksum protection on the volume. The default is "on". The user is cautioned that turning off the option exposes the filesystem to inconsistency that could be caused by a misbehaving hardware component in the system. "raidsize" (value: < number >) **Traditional** volumes only. The maximum size of a RAID group within the traditional volume. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be. "raidtype" (value: "raid4" | "raid_dp" | "raid_tec") **Traditional** volumes only. The type of RAID group used for this traditional volume. The "raid4" setting provides one parity disk per RAID group, "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the traditional volume. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk. "read_realloc" (value: "on" | "space_optimized" | "off") Setting this option to "on" enables read-reallocation in the volume. This causes application reads to optimize the layout of parts of a file or LUN after the data has been read from disk and is in the appliance memory. The default value is "off". The value "space_optimized" indicates read-reallocate updates will not duplicate blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes. "resyncsnaptime" (value: < number >) **Traditional** volumes only. Sets the RAID mirror resynchronization snapshot frequency to be the given number of minutes. The default value is '60' (minutes). "root" (value: < none >) The specified volume is to become the root volume for the filer on the next reboot. This option can be used on only one volume at any given time. The existing root volume will become a non-root volume after the reboot. Until the system is rebooted, the current root volume will continue to show 'root' as one of its options, and the new root volume will show 'diskroot' as an option. In general, the volume that has the 'diskroot' option value is the one that becomes the root volume following the next reboot. The only way to remove the root status of a volume is to set it on another one. "schedsnapname" (value: "create_time" | "ordinal") Setting the option to "ordinal" causes scheduled snapshots to be named in the hourly.n name format. Setting the value to

"create_time" causes snapshots to use a hourly.yyyy-mm-dd_hhmm name format instead. The default is "ordinal".

"snapmirrored" (value : "off")
If SnapMirror is enabled, the filer automatically sets this option to "on". Set this option to "off" if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable volume. This option can only be set to "off" with this interface. Only the filer can change this option's value from "off" to "on". This option is not settable in Data ONTAP Cluster-Mode. Use "snapmirror-break" API instead.

"try_first" (value : "volume_grow" | "snap_delete")
If the flexible volume is configured to automatically reclaim space if the volume is running out of space, then setting this option to "volume_grow" will cause the volume to increase in size before deleting snapshots. If the option was set to "snap_delete", snapshots will be deleted before the volume size is increased.

"svo_enable" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_allow_rman" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume to allow this volume to contain Oracle RMAN backup data. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_checksum" (value: "on" | "off")
Setting this option to "on" enables SnapValidator checksumming of all writes to this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_reject_errors" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality to reject any write to the volume which fails the SnapValidator checks. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"thorough_scrub" (value: "on" | "off")
Traditional volumes only. Setting the option to "on" enables thorough scrub on a block checksum volume. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"snaplock_autocommit_period" (value: "none" | h|d|m|y)
SnapLock volumes only. This option defines the criteria for committing files to WORM on a SnapLock volume by the autocommit scanner. h, d, m, y denote hours, days, months and years respectively. The default value of this option is "none" that corresponds to autocommit being disabled in the SnapLock volume. The minimum autocommit period on a SnapLock volume is 2h. Any valid value other than "none", specified in hours (h), days (d), months (m) or years (y) would trigger the autocommit scanner on the Snaplock volume.

"snaplock_default_period" (value : min | max | infinite | s|h|d|m|y)

			This option can be set only for **SnapLock** volumes and specifies the default retention period that will be applied to files committed to WORM state without an associated retention period. If this option value is **min** then snaplock_minimum_period is used as the default retention period. If this option value is **max** then snaplock_maximum_period is used as the default retention period. If this option value is **infinite** then infinite retention period will be used as the default retention period. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file "snaplock_maximum_period" (value: infinite | s|h|d|m|y) This option can be set only for **SnapLock** volumes and specifies the maximum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period longer than snaplock_maximum_period will be assigned a retention period equal to snaplock_maximum_period. If this option value is **infinite** then files can be committed for infinite retention period in the volume. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file "snaplock_minimum_period" (value: infinite | s|h|d|m|y) This option can only be set for **SnapLock** volumes and specifies the minimum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period shorter than snaplock_minimum_period will be assigned a retention period equal to snaplock_minimum_period. If this option value is **infinite** then every file committed to the volume will have a infinite retention period. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file
option-value		string	The value to set the named option (except for option 'root', which has no associated value).
volume		string	Name of the volume for which we want to set an option.

Errno	Description
EINTERNALERROR	
ESWAPFILENOSPACE	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

EONTAPI_EVOLOPNOTSUPP	
EVSERVER_OP_NOT_ALLOWED	
EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRY_FIRST	

Vfiler-enabled
Yes

volume-set-total-files

[top]

Set a volume's 'files-total' value to the given quantity. This specifies the maximum number of user-visible files that the given volume can hold, as reported by the 'files-total' value within: - the 'volumes' output parameter of the Data ONTAP 7-Mode 'volume-list-info' API, and - the 'attributes-list' output parameter of the Data ONTAP Cluster-Mode 'volume-get-iter' API. Note that this interface corresponds to the following Data ONTAP 7-Mode 'maxfiles' console command and Data ONTAP Cluster-Mode 'volume modify' console command: 'maxfiles <vol-name> <requested_new_max>' 'volume modify -vserver <vserver-name> -volume <volume-name%gt -files <requested_new_max>'

Input Name	Range	Type	Description
force		boolean optional	Indicates whether the filer should reject a legal but "unreasonable" (seemingly too large) value for 'requested-total-files', or accept it without question. By default, legal but "unreasonable" values are rejected.
requested-total-files		integer validate	Specifies the new value for the volume's 'files-total' field. This value must be larger than the volume's current 'files-total' value, and can never be larger than the number of 4KB blocks in the volume. The filer may actually choose a smaller value so as to comply with certain internal accounting and alignment requirements. Once this value has been increased for a volume, it cannot be reduced below the value of 'inodefile-public-capacity' for that volume. Range : [0..2^31-1]
volume		string	The name of the volume whose 'files-total' field we wish to set. The chosen volume must be online and not read-only for this operation to succeed.

Output Name	Range	Type	Description
resulting-total-files		integer	The quantity to which the given volume's 'files-total' field was actually set after all internal requirements and alignments were computed. This quantity will never be larger than 'requested-total-files', and never be smaller than the volume's 'inodefile-public-capacity' value before the request. Range : [0..2^31-1]

Errno	Description
EINTERNALERROR	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVEROPNOTALLOWED	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-size

[top]

Given the name of a flexible volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for FlexGroups, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents. Also, this API does not allow to set the volume's size from vFiler context.

Input Name	Range	Type	Description
new-size		string optional	Specify the flexible volume's new size using the following format: [+|-] < number > k|m|g|t] If a leading '+' or '-' appears, it indicates that the given flexible volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The file system size of a readonly replica flexible volume, such as a snapmirror destination, is determined from the replica source. In such cases, the value set using "volume-size" is interpreted as an upper limit on the size. A flexible volume that's not a readonly replica which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly replica flexible volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly replica destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. This option is not applicable from vFiler context. Attempting to set volume size from vfiler context will result in failure with EINTERNALERROR error code being returned.
volume		string	The name of the flexible volume for which we want to get or set its size.

Output Name	Range	Type	Description
is-fixed-size-flex-volume		boolean optional	Is the flexible volume filesystem size fixed?
is-readonly-flex-volume		boolean optional	Is this flexible volume read only?
is-replica-flex-volume		boolean optional	Is this flexible volume a replica volume?
volume-size		string	Either the size we found the given volume to be or the size to which the volume was set (if we're setting its size via the 'new-size' argument above).

Errno	Description
EINTERNALERROR	
EONTAPI_ENOSPC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	

EMULTIPLEVOLSFOUND	

Vfiler-enabled
Yes

volume-size-async

[top]

Given the name of a volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for flexible volumes, Infinite Volume constituents or FlexGroup constituents.

Input Name	Range	Type	Description
new-size		string optional	Specify the volume's new size using the following format: [+|-]< number > [k|m|g|t|p] If a leading '+' or '-' appears, it indicates that the given volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', 't', and 'p' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', 'terabytes', and 'petabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of kilobytes desired. The file system size of a readonly volume, such as a snapmirror destination, is determined from the snapmirror source. In such cases, the value set using this API is interpreted as an upper limit on the size. An volume that's not a snapmirror destination which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly snapmirror destination volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly snapmirror destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. If this input is specified, the size modification occurs asynchronously, and the 'volume-size' output is not returned to the caller. Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation or expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initialization is complete. While in a 'mixed' further operations of the Infinite Volume are not possible. This parameter is not supported on Infinite Volumes that are managed by storage services.
volume-name		string	The name of the volume.

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.

result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".
volume-size		string optional	The size of the volume. This output is returned only if the caller is querying the the size and is not modifying it by specifying the 'new-size' input parameter.

Errno	Description
EINTERNALERROR	
EONTAPI_ENOSPC	
EVOLUMEBUSY	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EVOLUME_TYPE_NOT_SUPPORTED	
E_OLV_CONSTITUENT_SIZE_TOO_BIG	
E_OLV_CONSTITUENT_SIZE_TOO_SMALL	
E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE	
E_OLV_FG_DOESNT_EXIST	
E_OLV_FG_SHRINK_UNSUPPORTED	

volume-space-get-iter

[top]

Display a list of volumes and a breakup of their used space. This information is only available when the volume is online. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

Input Name	Range	Type	Description
desired-attributes		space-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		space-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-space object. All volume-space objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		space-info[] optional	The list of attributes of volume-space objects.
next-tag		string optional	Tag for the next call. Not present when there are no more volume-space objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

volume-split

[top]

Remove the specified plex from a mirrored traditional volume and create a new unmirrored traditional volume with the specified name that contains the split-off plex. The original mirrored traditional volume becomes unmirrored. The plex to be split from the original traditional volume must be functional (not partial), but it could be inactive, resyncing, or out-of-date. A 'volume-split' operation can therefore be used to gain access to a plex that is not up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting traditional volume will also be offline. Otherwise, the resulting traditional volume will be in the same online/offline/restricted state as the original traditional volume. Note that a split mirror can be joined back together via the "victim-volume" option to "volume-mirror".

Input Name	Range	Type	Description
new-volume-name		string	Name of the new traditional volume to create from the split plex.
plex		string	Name of the plex to split out of its traditional volume.

Errno	Description
EINTERNALERROR	
EVOLUMEPLEXINVALID	

volume-tiering-policies-list

[top]

Displays the list of names and descriptions of tiering policies supported in the cluster

Output Name	Range	Type	Description
tiering-policies		system-api-enum-value-info[]	Enumeration type name/value pair

Errno	Description
EINTERNALERROR	

volume-transition-check

[top]

Check to see if a desired volume transition can be performed from one volume type to another. Only 7-mode flexible volume to cluster-mode flexible volume and vice versa with limited options are supported at this time.

Input Name	Range	Type	Description
destination-vserver-name		string optional	The name of the vserver into which a volume is being transitioned.
non-		boolean	A 'true' value indicates that only a non-disruptive transition will be

disruptive		optional	accepted. This is not available for all volume configurations. If a value is not specified, this field will default to true - non-disruptive desired.
operation-type		string optional	The type of transition operation; Possible values are: "copy_based" (default) "in_place" "untransition" Copy Based Transition is currently the only supported mode for transition; "in_place" and "untransition" should only be used in testing scenarios.
override-warnings		boolean optional	A 'true' value indicates that all warnings will be ignored as a part of the transition process. The system will select default values as appropriate. If not specified, values will not be overridden.
source-node		string	The name of the node where the target volumes reside.
volumes		volume-transition-volinfo[]	Volumes to check for the ability to transition to Cluster-Mode.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EVOLUMENOTONLINE	
EVOL_TOO_MANY	
EONTAPI_ENOSPC	
EONTAPI_ESYSTEMERR	
EMULTIPLEVOLSFOUND	
EVOLTRANSERROR	
EVOLTRANWARNING	

volume-transition-prepare-to-downgrade

[top]

Verifies that there are no volumes actively transitioning from 7-mode to clustered Data ONTAP, and configures the transition feature for downgrade.

Errno	Description
EINTERNALERROR	
CANNOT_DISABLE_TRANSITION_TDP_VOLUME_EXISTS	

volume-transition-protect

[top]

Fence access to volume during Transition.

Input Name	Range	Type	Description
is-enabled		boolean	Protection Enabled
volume		string	The name of the volume.
vserver		string	The name of the Vserver which owns the volume.

Errno	Description

EINTERNALERROR	
EINVALIDINPUTERROR	
EVOLUMENOTONLINE	
EONTAPI_EINPROGESS	
EVOLTRANSERROR	
EVOLTRANSWARNING	
EVOLTRANSNOTALLOWED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

volume-unmount

[top]

Unmount a volume from its parent volume and delete the junction path at which the volume is mounted. This API is not supported on Infinite Volume constituents.

Input Name	Range	Type	Description
force		boolean optional	This specifies whether the volume unmount operation is forced or not. The default value is false. Under certain circumstances, such as an unexpected reboot while in the middle of unmounting, the unmount operation might find that after the reboot, it is unable to delete the junction path at which the volume is mounted in the file system. In this situation, if the force option is set to false, the unmount operation is failed (EJUNCTIONDELETEFAILED), leaving the junction path information intact in the Volume Management Database. Instead, if the force option is set to true, the unmount operation proceeds to delete the junction path information in the Volume Management Database, irrespective of any failure to delete the junction path in the file system.
volume-name		string	The name of the volume.

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
EINTERNALERROR	
EINVALIDINPUTERROR	
EOBJECTNOTFOUND	
EMULTIPLEVOLSFOUND	
EVOL_NOT_MOUNTED	
EVOL_UNMOUNT_FAILED	
EJUNCTION_DELETE_FAILED	
EVOLUME_TYPE_NOT_SUPPORTED	

volume-verify-list-info

[top]

Get the status of RAID mirror verification on the named traditional volume. Status includes percentage

complete and whether it's currently suspended.

Input Name	Range	Type	Description
volume		string optional	Name of an existing mirrored traditional volume. If no name is given, then mirror verification status is generated for all aggregates currently being verified (including the ones embedded in traditional volumes).

Output Name	Range	Type	Description
verify-details		verify-detail-info[]	List of aggregates (including the ones embedded in traditional volumes) and their RAID mirror verification status.

Errno	Description
EINTERNALERROR	

volume-verify-resume

[top]

Resume RAID mirror verification on the named traditional volume. If no name is given, then resume RAID mirror verification on all aggregates (including those embedded in traditional volumes) that have been suspended.

Input Name	Range	Type	Description
volume		string optional	Name of the existing traditional volume for which RAID mirror verification is to resume.

Errno	Description
EINTERNALERROR	

volume-verify-start

[top]

Start RAID mirror verification on the named traditional volume. RAID mirror verification compares the data in both plexes of a mirrored aggregate (whether it's free-standing or embedded in a traditional volume). In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then RAID mirror verification is started on all online aggregates (including those embedded in traditional volumes). Use either the "aggr-verify-list-info" or "volume-verify-list-info" API to check RAID mirror verification status. If the fix-plex option is used, then a name must be specified.

Input Name	Range	Type	Description
fix-plex		integer optional	If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them.
log-only		boolean optional	If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored.
volume		string optional	Name of the mirrored traditional volume to verify.

Errno	Description
EINTERNALERROR	

volume-verify-stop

[top]

Stop RAID mirror verification on the named traditional volume. If no name is given, stop RAID mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

Input Name	Range	Type	Description
volume		string optional	Name of the traditional volume for which we are to stop RAID mirror verification.

Errno	Description
EINTERNALERROR	

volume-verify-suspend

[top]

Suspend RAID mirror verification on the named traditional volume. If no name is given, suspend mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

Input Name	Range	Type	Description
volume		string optional	Name of the traditional volume for which we are to suspend RAID mirror verification.

Errno	Description
EINTERNALERROR	

volume-wafl-info

[top]

DEFINED HERE FOR BACKWARDS COMPATIBILITY ONLY. CHANGE OVER TO USING THE NEW 'volume-get-filer-info' AS SOON AS POSSIBLE. Get WAFL status information.

Output Name	Range	Type	Description
checksum-types		string	Checksum type. The possible values: • "zoned" - if all volumes are Fixed VBN, • "block" - if all volumes are Block Appended, • "mixed" - if volumes are mixed Fixed VBN and Block Appended and Advanced Zoned, • "none" - if no volumes have zoned or block or advanced_zoned checksum (azcs) or mixed, • "advanced_zoned" - if all volumes in the system have Advanced Zoned Checksum scheme.
			Type of disks. Possible values: 512, 520, 4096, mixed, none. "512" if all disks 512 BPS, "520" if all disks 520 BPS, "4096" if all disks 4096 BPS,

disk-types		string	"mixed" if disks are mixed 512 BPS, 520 BPS and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS.
root-volume		string	Current root volume.
snapshots-max		integer	Maximum number of snapshots available. Range : [0..2^31-1].

Errno	Description
EINTERNALERROR	

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **clone-split-detail-info**

[top]

Status information about an active clone split.

Name	Range	Type	Description
block-percentage-complete		integer	Percent of the clone's blocks processed to date by the split.
blocks-scanned		integer	Number of the clone's blocks that have been scanned to date by the split.
blocks-updated		integer	Total number of the clone's blocks that have been updated to date by the split.
inode-percentage-complete		integer optional	Percent of the clone's inodes processed to date by the split.
inodes-processed		integer optional	Number of the clone's inodes processed to date by the split.
inodes-total		integer optional	Total number of inodes in the clone.
name		string	Name of the clone being split.

Element definition: **clone-split-estimate-info**

[top]

Estimate information about a future clone split.

Name	Range	Type	Description
estimate-blocks		integer	The estimated number of 4kb blocks required to perform the volume clone split.

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **errors-warnings-info**

[top]

The complete list of errors and warnings if perform-validation-only is true or all the warnings if is-override-warnings is true.

Name	Range	Type	Description
error-warning		string	Error or warning

Element definition: **flexgroup-max-size-entry**

[top]

The maximum FlexGroup size that can be created for an existing disk type.

Name	Range	Type	Description
aggr-type		string	The disk type of the aggregates for this maximum size.
max-size	**[0..2^64-1]**	integer	The maximum FlexGroup size that can be created.
provider-type		string	The object store provider type of the FabricPools for this maximum size. This parameter is only supported when getting the create limits of a FlexGroup where the support-tiering parameter is true.

Element definition: **footprint-info**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dedupe-metafiles-footprint	**[0..2^63-1]**	integer optional	This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-footprint-percent	**[0..100]**	integer optional	This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary-footprint	**[0..2^63-1]**	integer optional	This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary-footprint-percent	**[0..100]**	integer optional	This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
delayed-free-footprint	**[0..2^63-1]**	integer optional	This field represents the delayed free blocks footprint in bytes. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable
delayed-free-footprint-percent	**[0..100]**	integer optional	This field represents the delayed free blocks footprint as a percentage of aggregate size. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable
file-operation-metadata	**[0..2^63-1]**	integer optional	This field represents the file operation metadata footprint in bytes. Attributes: non-creatable, non-modifiable
file-operation-metadata-percent	**[0..100]**	integer optional	This field represents the file operation metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
flexvol-metadata-footprint	**[0..2^63-1]**	integer optional	This field represents flexible volume metadata in bytes. Attributes: non-creatable, non-modifiable
flexvol-metadata-footprint-percent	**[0..100]**	integer optional	This field represents flexible volume metadata as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
snapmirror-destination-footprint	**[0..2^63-1]**	integer optional	This field represents the SnapMirror destination footprint in bytes. Attributes: non-creatable, non-modifiable
snapmirror-destination-footprint-percent	**[0..100]**	integer optional	This field represents the SnapMirror destination footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
tape-backup-metafiles-footprint	**[0..2^63-1]**	integer optional	This fields represents the tape backup metadata footprint in bytes. Attributes: non-creatable, non-modifiable
tape-backup-metafiles-footprint-percent	**[0..100]**	integer optional	This field represents the tape backup metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
total-footprint	**[0..2^63-1]**	integer optional	This field represents the total footprint in bytes. Attributes: non-creatable, non-modifiable
total-footprint-percent	**[0..2^32-1]**	integer optional	This field represents the total footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume		string optional	Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable

volume-blocks-footprint	**[0..2^63-1]**	integer optional	This field represents the footprint of blocks written to the volume in bytes. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin0	**[0..2^63-1]**	integer optional	This field represents the footprint of blocks written to the volume in bytes for the performance tier (bin 0). Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin0-percent	**[0..100]**	integer optional	This field represents the footprint of blocks written to the volume in bin 0 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin1	**[0..2^63-1]**	integer optional	This field represents the footprint of blocks written to the volume in bytes for bin 1. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-bin1-percent	**[0..100]**	integer optional	This field represents the footprint of blocks written to the volume in bin 1 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume-blocks-footprint-percent	**[0..2^32-1]**	integer optional	This field represents the footprint of blocks written to the volume as a percentage of aggregate size. Attributes: non-creatable, non-modifiable
volume-guarantee-footprint	**[0..2^63-1]**	integer optional	This field represents the volume guarantee footprint in bytes. Alternatively, it is the space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable
volume-guarantee-footprint-percent	**[0..100]**	integer optional	This field represents the volume guarantee footprint as a percentage of aggregate size. Alternatively, it is the percentage of space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable
vserver		string optional	Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable

Element definition: **guarantee**

[top]

Type of guarantee

Name	Range	Type	Description
type		string	guarantee that is supported on a given volume. Possible values are: "volume", "file", "partial", "none"

Element definition: **mediascrub-detail-info**

[top]

Information about media scrubbing.

Name	Range	Type	Description
mediascrub-status		string	Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active.
percentage-complete		integer optional	Media scrubbing percentage complete. Range: [0..100].
raid-group		string	Name of the RAID group.

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

Name	Range	Type	Description
default-size		integer	Default size of a RAID group of this type in aggregates. Range : [6..16].
disktype		string optional	Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK.
maximum-disk-capacity		size optional	Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination.
maximum-size		integer	Maximum size of a RAID group of this type in aggregates. Range : [6..28].
minimum-disk-capacity		size optional	Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination.
minimum-size		integer	Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7.
raidtype		string	Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

Name	Range	Type	Description
raidtype		string	Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec.

Element definition: **scrub-detail-info**

[top]

Scrubbing information.

Name	Range	Type	Description
is-suspended		boolean	Suspended state of the scrub on that RAID group.
last-scrub-timestamp		integer optional	Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1].
percentage-complete		integer optional	Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100].
raid-group		string	Name of the RAID group involved in the scrub.

Element definition: **space-info**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
dedupe-metafiles	**[0..2^63-1]**	integer optional	This field represents space used by deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-percent	**[0..100]**	integer optional	This field represents space used by deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary	**[0..2^63-1]**	integer optional	This field represents space used by temporary deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable
dedupe-metafiles-temporary-percent	**[0..100]**	integer optional	This field represents space used by temporary deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable
filesystem-metadata	**[0..2^63-1]**	integer optional	This field represents volume filesystem metadata in bytes. Attributes: non-creatable, non-modifiable
filesystem-metadata-percent	**[0..100]**	integer optional	This field represents volume filesystem metadata as a percentage of volume size Attributes: non-creatable, non-modifiable
inodes	**[0..2^63-1]**	integer optional	This field represents space used by inode metadata in bytes. Attributes: non-creatable, non-modifiable
inodes-percent	**[0..100]**	integer optional	This field represents space used by inode metadata as a percentage of volume size. Attributes: non-creatable, non-modifiable
inodes-upgrade	**[0..2^63-1]**	integer optional	This field represents space used by inode metadata for upgrade in bytes. Attributes: non-creatable, non-modifiable
inodes-upgrade-percent	**[0..100]**	integer optional	This field represents space used by inode metadata for upgrade as a percentage of volume size. Attributes: non-creatable, non-modifiable
logical-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically available in the volume. Attributes: non-creatable, non-modifiable

logical-used	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. Attributes: non-creatable, non-modifiable
logical-used-percent	**[0..2^32-1]**	integer optional	This field represents the logical used as a percentage of volume size. Attributes: non-creatable, non-modifiable
performance-metadata	**[0..2^63-1]**	integer optional	This field represents metadata in bytes used for performance optimization. Attributes: non-creatable, non-modifiable
performance-metadata-percent	**[0..100]**	integer optional	This field represents metadata used for performance optimization as a percentage of volume size Attributes: non-creatable, non-modifiable
physical-used	**[0..2^63-1]**	integer optional	The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable
physical-used-percent	**[0..2^32-1]**	integer optional	The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies. Attributes: non-creatable, non-modifiable
quota-metafiles	**[0..2^63-1]**	integer optional	This field represents space used by quota metafiles in bytes. Attributes: non-creatable, non-modifiable
quota-metafiles-percent	**[0..100]**	integer optional	This field represents space used by quota metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapmirror-metadata	**[0..2^63-1]**	integer optional	This field represents space used by metafiles during SnapMirror operations in bytes. Attributes: non-creatable, non-modifiable
snapmirror-metadata-percent	**[0..100]**	integer optional	This field represents space used by metafiles during SnapMirror operations as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapshot-reserve	**[0..2^63-1]**	integer optional	The size (in bytes) in the volume that has been set aside as reserve for snapshot usage. Attributes: non-creatable, non-modifiable
snapshot-reserve-percent	**[0..100]**	integer optional	This field represents the snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapshot-reserve-unusable	**[0..2^63-1]**	integer optional	This field represents Snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable
snapshot-reserve-unusable-percent	**[-2^31..2^31-1]**	integer optional	This field represents Snapshot reserve that is not available as a percentage of volume size. Attributes: non-creatable, non-modifiable
snapshot-spill	**[0..2^63-1]**	integer optional	This field represents space used by Snapshot copies when it exceeds the size of the Snapshot reserve in bytes. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable
snapshot-spill-percent	**[0..100]**	integer optional	This field represents Snapshot spill as a percentage of volume size. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable
tape-backup-metadata	**[0..2^63-1]**	integer optional	This fields represents the tape backup metadata in bytes. Attributes: non-creatable, non-modifiable
tape-backup-			This field represents the tape backup metadata as a

metadata-percent	**[0..100]**	integer optional	percentage of volume size. Attributes: non-creatable, non-modifiable
total-used	**[0..2^63-1]**	integer optional	Total used space in the volume including snapshot reserve in bytes. Attributes: non-creatable, non-modifiable
total-used-percent	**[0..2^32-1]**	integer optional	Total used space in the volume including snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable
user-data	**[0..2^63-1]**	integer optional	This field represents user data in bytes. Alternatively, this is the space reserved to overwrite the data in the volume. Attributes: non-creatable, non-modifiable
user-data-percent	**[0..2^32-1]**	integer optional	This field represents user data as a percentage of volume size. Attributes: non-creatable, non-modifiable
volume		string optional	Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable

Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
description		string optional	Description of the enumeration value Attributes: non-creatable, non-modifiable
value		string optional	Name of the enumeration value Attributes: key, non-creatable, non-modifiable

Element definition: **verify-detail-info**

[top]

Information about mirror verification.

Name	Range	Type	Description
is-suspended		boolean	Is mirror verification suspended for this aggregate?
name		string	Name of the aggregate.
pct-with-precision		string optional	Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12")
percentage-complete		integer optional	Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100].

Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
encrypt		boolean optional	To create an encrypted Volume. This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted. Attributes: optional-for-create, non-modifiable
encryption-state		string optional	The encryption state of a volume. Possible values: • 'none' ... plain-text volume, • 'full' ... encrypted volume, • 'partial' ... volume are in mixed encryption state(valid for FlexGroup only), • 'converting_to_encrypted' ... conversion to encryption operation is in progress, • 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated), • 'rekeying' ... rekey of volume is in progress Attributes: non-creatable, non-modifiable
encryption-type		encryptiontype optional	Encryption type of a volume. Possible values: • 'none' ... plain-text volume, • 'volume' ... NVE (NetApp Volume Encryption) volume, • 'aggregate' ... NAE (NetApp Aggregate Encryption) volume Attributes: optional-for-create, non-modifiable Possible values: • "undefined" - Not defined, • "none" - Plain-text volume, • "volume" - NVE (NetApp Volume Encryption) volume, • "aggregate" - NAE (NetApp Aggregate Encryption) volume, • "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)
			The creation date and time of the key-id.

key-creation-time		string optional	The creation date and time of current key-id of the volume. Attributes: non-creatable, non-modifiable
key-id		string optional	The key-id used for creating encrypted volume. A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key. Attributes: non-creatable, non-modifiable
volume-antivirus-attributes		volume-antivirus-attributes optional	This field contains information about Antivirus On-Access settings for the volume.
volume-autobalance-attributes		volume-autobalance-attributes optional	This field contains information about the state of Auto Balance Aggregate for a volume.
volume-autosize-attributes		volume-autosize-attributes optional	This field contains information about the autosize settings of the volume.
volume-clone-attributes		volume-clone-attributes optional	This field contains information applying exclusively to clone volumes.
volume-comp-aggr-attributes		volume-comp-aggr-attributes optional	This field contains information about composite aggregate attributes of a volume.
volume-directory-attributes		volume-directory-attributes optional	This field contains information related to directories in a volume.
volume-export-attributes		volume-export-attributes optional	This field contains information about export settings of the volume.
volume-flexcache-attributes		volume-flexcache-attributes optional	This field contains information applying exclusively to flexcache volumes.
volume-hybrid-cache-attributes		volume-hybrid-cache-attributes optional	This field contains information on Flash Pool caching attributes on a volume
volume-id-attributes		volume-id-attributes optional	This field contains identification information about the volume.
volume-infinitevol-attributes		volume-infinitevol-attributes optional	This field contains information about the state of an Infinite Volume.
volume-inode-attributes		volume-inode-attributes optional	This field contains information about inodes in a volume.
volume-language-		volume-language-attributes	This field contains information about volume language-related settings.

attributes		optional	
volume-mirror-attributes		volume-mirror-attributes optional	This field contains information applying exclusive to volume mirror.
volume-performance-attributes		volume-performance-attributes optional	This field contains information that relates to the performance of the volume.
volume-qos-attributes		volume-qos-attributes optional	This field contains the information that relates to QoS.
volume-security-attributes		volume-security-attributes optional	This field contains information about volume security settings.
volume-sis-attributes		volume-sis-attributes optional	This field contains information about Deduplication, file clone, compression, etc.
volume-snaplock-attributes		volume-snaplock-attributes optional	This field contains information about snaplock attributes of the volume.
volume-snapshot-attributes		volume-snapshot-attributes optional	This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded.
volume-snapshot-autodelete-attributes		volume-snapshot-autodelete-attributes optional	This field contains information about snapshot autodelete policy settings.
volume-space-attributes		volume-space-attributes optional	This field contains information related to volume disk space management including on-disk layout.
volume-state-attributes		volume-state-attributes optional	This field contains information about the state or status of a volume or its features.
volume-transition-attributes		volume-transition-attributes optional	This field contains information applying exclusively to transitioned or transitioning volumes.
volume-vm-align-attributes		volume-vm-align-attributes optional	This field contains information related to the Virtual Machine alignment settings on a volume
volume-vserver-dr-protection-attributes		volume-vserver-dr-protection-attributes optional	This fields contains information about protection type for the volume in a Vserver DR setup.

Element definition: **volume-clone-info**

[top]

Volume FlexClone typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate		string optional	FlexClone Aggregate Attributes: non-creatable, non-modifiable
block-percentage-complete	**[0..2^64-1]**	integer optional	Percentage Complete Attributes: non-creatable, non-modifiable
blocks-scanned	**[0..2^64-1]**	integer optional	Blocks Scanned Attributes: non-creatable, non-modifiable
blocks-updated	**[0..2^64-1]**	integer optional	Blocks Updated Attributes: non-creatable, non-modifiable
dsid	**[0..2^64-1]**	integer optional	FlexClone Data Set ID Attributes: non-creatable, non-modifiable
flexclone-used-percent	**[0..100]**	integer optional	FlexClone Used Percentage Attributes: non-creatable, non-modifiable
inherited-physical-used	**[0..2^63-1]**	integer optional	Inherited Physical Used from Base Snapshot Attributes: non-creatable, non-modifiable
inherited-savings	**[0..2^63-1]**	integer optional	Inherited Savings from Base Snapshot Attributes: non-creatable, non-modifiable
junction-active		boolean optional	Junction Active Attributes: optional-for-create, non-modifiable
junction-path		string optional	Junction Path Attributes: optional-for-create, non-modifiable
match-parent-storage-tier		boolean optional	(DEPRECATED)-Match Split Data to Parent Storage Tier Attributes: optional-for-create, non-modifiable
msid	**[0..2^64-1]**	integer optional	FlexClone Master Data Set ID Attributes: non-creatable, non-modifiable
parent-snapshot		string optional	FlexClone Parent Snapshot Attributes: optional-for-create, non-modifiable
parent-volume		string optional	FlexClone Parent Volume Attributes: required-for-create, non-modifiable
parent-vserver		string optional	FlexClone Parent Vserver Attributes: optional-for-create, non-modifiable
qos-adaptive-policy-group-name		string optional	QoS Adaptive Policy Group Name Attributes: optional-for-create, non-modifiable
qos-policy-group-name		string optional	QoS Policy Group Name Attributes: optional-for-create, non-modifiable
size	**[0..2^63-1]**	integer optional	FlexClone Size Attributes: non-creatable, non-modifiable
space-guarantee-enabled		boolean optional	Space Guarantee In Effect Attributes: non-creatable, non-modifiable
space-reserve		string optional	Space Guarantee Style Attributes: optional-for-create, non-modifiable Possible values: • "none" , • "volume"

split-estimate		integer optional	Split Estimate Attributes: non-creatable, non-modifiable
state		string optional	FlexClone Volume State Possible values are: • 'online', • 'offline', • 'restricted'. Attributes: non-creatable, non-modifiable
used	**[0..2^63-1]**	integer optional	Used Size Attributes: non-creatable, non-modifiable
volume		string optional	FlexClone Volume Attributes: key, required-for-create, non-modifiable
volume-type		string optional	The type of the volume to be created. Possible values: • 'rw' ... read-write volume, • 'dp' ... data-protection volume Default value is 'rw'. Attributes: optional-for-create, non-modifiable
vserver		string optional	Vserver Name Attributes: key, non-creatable, non-modifiable
vserver-dr-protection		string optional	Indicates whether the volume will be replicated to the destination in a Vserver DR setup. Possible values are: • 'protected' • 'unprotected' Attributes: optional-for-create, modifiable Possible values: • "protected" - Volume is protected by Vserver DR, • "unprotected" - Volume is not protected by Vserver DR

Element definition: **volume-encryption-conversion-info**

[top]

Volume Encryption Conversion typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
percentage-completed		string optional	Percentage Completed Attributes: non-creatable, non-modifiable
start-time		datetime optional	Start Time Attributes: non-creatable, non-modifiable

status		string optional	Status Attributes: non-creatable, non-modifiable
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-encryption-rekey-info**

[top]

Volume Encryption Rekey typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
percentage-completed		string optional	Percentage Completed Attributes: non-creatable, non-modifiable
start-time		datetime optional	Start Time Attributes: non-creatable, non-modifiable
status		string optional	Status Attributes: non-creatable, non-modifiable
volume		volume-name optional	Volume Name Attributes: key, non-creatable, non-modifiable
vserver		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-flexgroup-capacity-tier-footprint-info**

[top]

FlexGroup Capacity Tier Footprint When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

volume-capacity-tier-footprint		size optional	This field represents the footprint of blocks written to the capacity tier, in bytes, for the FlexGroup. Attributes: non-creatable, non-modifiable
volume-name		volume-name optional	This specifies the name of the FlexGroup for the capacity tier footprint. Attributes: key, non-creatable, non-modifiable
vserver-name		vserver-name optional	Vserver Name Attributes: key, non-creatable, non-modifiable

Element definition: **volume-info**

[top]

Volume status information.

Name	Range	Type	Description
autosize		autosize-info optional	Display autosize settings of the volume. Appears only under "verbose" mode.
block-type		string	The indirect block format of the volume. Possible values: 32_bit, 64_bit.
checksum-style		string	The style of RAID checksum used (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown • "wafl" - wafl, • "zoned" - zoned.
clone-children		clone-child-info[] optional	**Flexible** volumes only. This field appears for a flexible volume if it is the parent of one or more clones.
clone-parent		clone-parent-info[] optional	**Flexible** volumes only. This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage.
compression		compression-info	Note that the use of this element is deprecated, refer to the 'dense-status' element for compression status instead.
containing-aggregate		string optional	**Flexible** volumes only. The name of the aggregate in which the given flexible volume resides.
disk-count		integer	Total number of associated disks (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1]
encrypt		boolean optional	Specifies whether a volume is encrypted or not.
encryption-state		integer optional	Encryption state of a volume.
encryption-type		integer optional	Specifies whether a volume is encrypted as NAE (NetApp Aggregate Encryption) volume or not.
			Expiry date of the SnapLock volume in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range: [0..2^64-1]. The flag is-wraparound indicates if this date is in the

expiry-date		integer optional	normal format or is wrapped around. This field is not included if 1. the volume has an infinite expiry-date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots.
files-private-used		integer	Number of system (not user-visible) files (inodes) used. If the volume is restricted or offline, a a value of 0 is returned. Range : [0..2^64-1].
files-total		integer	Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
files-used		integer	Number of user-visible files (inodes) used. If the volume is restricted or offline, a value 0 returned. Range : [0..2^64-1].
filesystem-size		integer	Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
formatted-expiry-date		string optional	Expiry date of the SnapLock volume in a human-readable format :: is displayed. A value of "infinite" indicates that the volume has an infinite expiry date. A value of "scan_in_progress" indicates that expiry date is not displayed since worm scan on the volume is in progress. A value of "no_expiry_date" indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM snapshots. This field is not included if the volume is offline or the volume is regular volume (is-snaplock is "false").
formatted-snaplock-volume-compliance-clock		string optional	If Compliance Clock is initialized then human readable time :: is displayed. This field will be present only for SnapLock volumes.
hybrid-cache-eligibility		string	hybrid cache eligibility. Valid values are "read","read-write" and "none". Volumes which report "read" can support only read caching. Volumes which report "read-write" support both read and write caching. "none" means no hybrid caching support.
hybrid-cache-write-caching-ineligibility-reason		string optional	informs why the volume cannot participate in write caching. This field is valid only if the volume can participate in read caching but not write caching.
inodefile-private-capacity		integer	Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1].
inodefile-public-capacity		integer	Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1].
inofile-version		integer	The inofile-version of the volume. If the volume is restricted or offline, a value of 0 returned. Range : [0..2^32-1].
is-checksum-enabled		boolean	Whether RAID checksums are enabled (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate).

is-in-snapmirror-jumpahead		boolean optional	True when the volume is in the process of SnapMirror jump ahead. Default value is false. This field is returned only for online volumes.
is-inconsistent		boolean	Whether or not there is known inconsistency in the associated file system.
is-invalid		boolean optional	Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted 'vol copy' or SnapMirror(R) initial transfer. In such a case a volume is in a half created state and cannot be recovered. By default, this field is FALSE.
is-snaplock		boolean	Whether or not this is a SnapLock volume.
is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false.
is-space-slo-enabled		boolean optional	**Flexible** volumes only. Whether or not the space SLO type associated with the flexible volume is in effect. Possible values: enabled and disabled. This field does not appear if the flexible volume is restricted or offline.
is-unrecoverable		boolean optional	Whether or not there is known inconsistency in the associated file system and it is not recoverable. This value is only present for flexible volumes. By default, this field is FALSE.
is-wraparound		boolean optional	True if the date represented in expiry-date is a wrap around date. SnapLock wraps around the expiry date to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if 1. the volume has an infinite expiry date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume (is-snaplock is "false") 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots.
key-id		string optional	If the volume is encrypted, key associated with this key-id is used for encrypting the volume.
logical-used-percent		integer	This field represents the percentage of logical used size in the volume. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^32-1].
mirror-status		string	The RAID mirror status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: CP count check in progress, failed, invalid, limbo, mirror degraded, mirror resynchronizing, mirrored, needs CP count check, uninitialized, <unknown mirror state>, and unmirrored.
name		string	Name of the volume.
owning-vfiler		string optional	Name of the vfiler which owns this volume. This value will be returned only if the request is coming to vfiler0 and MultiStore is licensed.

percentage-used		integer optional	Percentage of the volume size that is used. If the volume is restricted or offline, a value of 0 is returned. Range : [0..100].
plex-count		integer	Number of plexes (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). This is also the size of the "plex" array that appears below. A plex is composed of one or more RAID groups that have been lashed together to serve as the unit for RAID mirroring. Range : [0..2^31-1]
plexes		plex-info[]	List of plexes for this volume (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate).
quota-init		integer	Quota state and percent initialized. 100% means that quotas are on, 0% means quotas are off, and anywhere inbetween means that quotas are initializing. Range : [0..100].
raid-size		integer	The current RAID group size (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1].
raid-status		string	The current RAID status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: copying, degraded, foreign, growing, initializing, invalid, ironing, mirror degraded, mirrored, needs check, noparity, normal, out-of-date, partial, raid0, raid4, raid_dp, raid_tec, reconstruct, resyncing, snapmirrored, verifying, unrecoverable. This field can contain a combination of the above status values in a comma separated list; for example: "reconstruct,growing".
remote-location		string optional	Displays the remote host and remote volume where the origin of the cache is located. Returned in format: : Present only if flex volume is a FlexCache. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name.
reserve		integer	Number of bytes reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to reserve-required if the value of the fractional_reserve option is set to the default value of 100%, but otherwise may be less than reserve-required. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]
reserve-required		integer	The number of reserved bytes that are required to ensure that the reserved space is sufficient to allow all space reserved files and LUNs to be overwritten when the volume is full. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
reserve-used		integer	Number of reserved bytes that is not available for new overwrites. The number includes both reserved bytes which have actually been used for overwrites as well as bytes which were never allocated in the first place. On a volume without free space, the "never allocated" component can become non-zero when reserve-required increases as holes are filled in. Because of this, the reserve-used value can exceed the number of snapshotted bytes. The reserve-used value can also exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
reserve-used-			Number of reserved bytes that have been used. This value is computed as the smaller of: (1) snapshotted bytes not in the active filesystem, and (2) reserve-used. This formula comes from the observation that you cannot have used more overwrite

actual		integer	reserved than have actually overwritten data. This value can exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
sis		sis-info optional	Display the Single Instance Storage (SIS) related status and statistics if the volume is a SIS volume.
size-available		integer	Number of bytes still available in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
size-expected-available		integer	Number of bytes that should be available in the volume irrespective of available in the aggregate for a thin provisioned volume. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volumes's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1].
size-logical-available		integer	Number of bytes that are logically available in the volume i.e. amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-logical-used		integer	Number of bytes logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-logical-used-by-afs		integer	Number of bytes that are logically used by the active filesystem of the volume. This value differs from 'size-logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported of FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-logical-used-by-snapshots		integer	Number of bytes that are logically used across all Snapshots copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1].
size-over-provisioned		integer	Number of bytes not available in the aggregate for a volume. This will be non-zero only in case of none guaranteed volume when it's unused size exceeds available space in the aggregate. For guarantee enabled volume this field will always report zero. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1].
size-physical-used		integer	The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1].
size-snapshot-reserve-available		integer	Number of bytes available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For none guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1].
size-total		integer	Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].

size-used		integer	Number of bytes used in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1].
snap-autodelete		snap-autodelete-info optional	Display the snapshot autodelete policy related status of the volume. Appears only under "verbose" mode.
snaplock-type		string optional	The type of the snaplock volume. It is present for snaplock volumes only, i.e. volumes for which is-snaplock is "true". Possible values - "compliance" or "enterprise"
snaplock-volume-compliance-clock		integer optional	If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. This field will be present only for SnapLock volumes. Range: [0..2^64-1].
snapshot-blocks-reserved		integer	The number of 1024 byte blocks that has been set aside as reserve for snapshot usage. This is same as "blocks-reserved" in snapshot-get-reserve API output. Range : [0..2^64-1].
snapshot-percent-reserved		integer	The percentage of disk space that has been set aside as reserve for snapshot usage. This is same as "percent-reserved" in snapshot-get-reserve API output. Range : [0..100].
space-reserve		string optional	**Flexible** volumes only. The storage guarantee associated with the flexible volume. Possible values: none, file, volume. This field does not appear if the flexible volume is restricted or offline.
space-reserve-enabled		boolean optional	**Flexible** volumes only. Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field does not appear if the flexible volume is restricted or offline.
space-slo		string optional	**Flexible** volumes only. The space SLO type associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. Possible values: none, thick, semi-thick. This field does not appear if the flexible volume is restricted or offline.
state		string	State of the volume. Possible values: "offline", "online", "restricted" and "unknown" for both flexible and traditional volumes, and "creating", "failed", and "partial" specifically for traditional volumes. The "mixed" state applies to both FlexGroups and Infinite Volumes. If the state of a FlexGroup or Infinite Volume is mixed, that indicates that not all of the constituents are in the same state.
transition		transition-info optional	Information relating to any transition jobs running or previously run on this volume.
type		string	The type of volume. Possible values: "flex" for flexible volumes, and "trad" for traditional volumes.
uuid		string	Universal unique identifier (UUID) for the volume.
vm-align		vm-align-info optional	Information related to the Virtual Machine alignment settings on the volume.
volume-64bit-upgrade		volume-64bit-upgrade-info optional	Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available.

Element definition: **volume-modify-iter-async-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".
volume-key		volume-attributes	The keys for the volume object to which the modify operation applies.

Element definition: **volume-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
volume-key		volume-attributes	The keys for the volume object to which the modify operation applies.

Element definition: **volume-move-error-code**

[top]

The complete list of error codes if perform-validation-only is true.

Name	Range	Type	Description
volume-move-error		integer	Error

Element definition: **volume-move-info**

[top]

Status of the move operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description

actual-completion-timestamp	**[0..2^31-1]**	integer optional	The date and time in cluster timezone when the volume move completed (successfully or otherwise). If the volume move operation completed successfully, this is the time when the volume on the destination aggregate has been made master and the original volume on the source aggregate has been deleted or is no longer a master copy. Attributes: non-creatable, non-modifiable
actual-duration	**[0..2^32-1]**	integer optional	The duration in days, hours, minutes and seconds for which the volume move was or is in progress. Attributes: non-creatable, non-modifiable
bypass-throttling		boolean optional	This specifies whether this move should be throttled so protocol operations latencies are not affected by move. If this parameter is specified with true, the move will not be throttled by the transfer engine. The default is false. Attributes: non-creatable, modifiable
bytes-remaining	**[0..2^63-1]**	integer optional	The number of bytes remaining to be sent during volume move. This is an approximate number and lags the current status by a few (3) minutes while the volume move is in operation. The bytes-remaining is applicable only for ongoing volume moves. It is not applicable to completed or failed moves. The data inside the volume is considered to be much much larger than data outside the volume. This value most of the time will track data inside the volume yet to be sent. Note that the bytes-remaining can increase over a period of time depending on the rate of change of volume by protocols or other consumers of the volume. Attributes: non-creatable, non-modifiable
bytes-sent	**[0..2^63-1]**	integer optional	The number of bytes sent thus far as part of volume move. This is an approximate number and lags the current status by a few seconds while the volume move is in operation. The bytes-sent is applicable only for ongoing and successful volume moves. The bytes-sent counter is mononotonically increasing in most cases. It is stored in memory. As a result, any reboots or failover of the move operation can lead to resetting of this counter to a lesser value than reported earlier. The data inside the volume is considered to be much much larger than metadata of the volume, mostly stored outside the volume. This value most of the time will track data inside the volume sent at the time of retreiving status. Attributes: non-creatable, non-modifiable
completion-code	**[0..2^64-1]**	integer optional	The status code of the move operation. The status code will be 0 while the job is running or is successful. It will be non-zero if it is not successful. The code field will be the same as job show's 'status job' field. This field will be in diag mode of the UI. Attributes: non-creatable, non-modifiable
completion-status		string optional	Once a volume move is complete, the final state of the volume move operation. This is available in diag mode only. Attributes: non-creatable, non-modifiable
cutover-action		string optional	The action to be taken for cutover or during cutover failure. Can be one of abort_on_failure, defer_on_failure, force or wait. This is the input given during the start of volume move. Attributes: non-creatable, modifiable

cutover-attempted-count	**[0..2^32-1]**	integer optional	Number of times cutover has been attempted during the move operation. This is a diag only field. Attributes: non-creatable, non-modifiable
cutover-attempts	**[1..25]**	integer optional	The number of attempts to be used by the move operation to cutover to the destination volume. This is the input by the upper layers. If the number of attempts is exhausted, the cutover-action input determines the next course of action for the move operation. Attributes: non-creatable, modifiable
cutover-hard-deferred-count	**[0..2^32-1]**	integer optional	Number of times cutover has been hard deferred during the move operation due to non-transient, intervention-necessary conditions. This is a diag only field. Attributes: non-creatable, non-modifiable
cutover-trigger-timestamp	**[0..2^31-1]**	integer optional	The time when move operation last accepted a trigger to initiate cutover. This is applicable when the move operation is waiting for a cutover to be triggered because of a hard cutover deferred state or because the cutover-action was wait. Attributes: non-creatable, non-modifiable
cutover-window	**[30..300]**	integer optional	The time window in seconds given as input for the cutover phase of volume move. Attributes: non-creatable, modifiable
cutovers-soft-deferred-count	**[0..2^32-1]**	integer optional	Number of times cutover has been soft deferred during the move operation due to transient conditions. This is a diag only field. Attributes: non-creatable, non-modifiable
destination-aggregate		string optional	The name of the aggregate where the volume is being moved to. Attributes: non-creatable, non-modifiable
destination-key-id		string optional	This is the encryption key-id of the destination volume. Attributes: non-creatable, non-modifiable
destination-node		string optional	The name of the node where the destination aggregate is. This will be a diagnostic only field. Attributes: non-creatable, non-modifiable
details		string optional	This field contains details about any warnings, errors and state of the move operation. This is a string field. Attributes: non-creatable, non-modifiable
enforce-network-throttling		boolean optional	This specifies whether this move should enforce replication engine node level network throttling. If this parameter is specified with true, the move will be throttled by the replication engine. The default is false. Attributes: non-creatable, modifiable
estimated-completion-time	**[0..2^31-1]**	integer optional	The approximate date and time in the cluster time zone when the entire volume move operation is expected to complete. The move operation completes when the volume instance on the destination aggregate has become the master copy and the volume instance on the source aggregate has been deleted or is no longer the master copy. The format will be in Ontap's Date format. Note that this time may keep increasing when the move goes into Cutover-Deferrred mode. In those cases where the input for cutover-action is wait, during data copy phase, estimated time of completion will

			approximate the time to reach cutover point and wait for user intervention. Attributes: non-creatable, non-modifiable
estimated-remaining-duration	**[0..2^32-1]**	integer optional	The approximate amount of time in terms of days, hours, minutes and seconds remaining to complete the volume move. Note that this duration will not go down to zero when the move goes into Cutover-Deferrred mode. The duration displayed in the examples is not correct. cutover. Attributes: non-creatable, non-modifiable
execution-progress		string optional	The execution progress of the job as reported by the job. This is used for debugging purposes only and is only available in diag mode. Attributes: non-creatable, non-modifiable
internal-state		string optional	This is the actual internal state of the move job. This is used for debugging purposes only and is only available in diag mode. Attributes: non-creatable, non-modifiable
is-destination-encrypted		boolean optional	This value is 'true' if the destination volume is an encrypted volume. Attributes: non-creatable, non-modifiable
is-source-encrypted		boolean optional	This value will be 'true' if the source volume is an encrypted volume. Attributes: non-creatable, non-modifiable
job-id	**[0..2^64-1]**	integer optional	The ui job id of the move job. This is available in diag mode only. Attributes: non-creatable, non-modifiable
job-uuid		uuid optional	The job uuid of the move job. This is available in diag mode only. Attributes: non-creatable, non-modifiable
last-cutover-trigger-timestamp	**[0..2^31-1]**	integer optional	The time when move operation initiated cutover. Attributes: non-creatable, non-modifiable
managing-node		string optional	The node in the cluster on which the move operation/job is or was running. This is usually on the node hosting the volume to be moved. Attributes: non-creatable, non-modifiable
moved-by-autobalance		boolean optional	This value will be 'true' if the move has been initiated by Auto Balance aggregate and 'false' if the move is not related to Auto Balance Aggregate. Attributes: non-creatable, non-modifiable
original-job-id	**[0..2^64-1]**	integer optional	This field will be populated when the move job is restarted with a new Job identifier. Attributes: non-creatable, non-modifiable
percent-complete	**[0..100]**	integer optional	The amount of work to move the volume completed thus far in terms of percentage. Attributes: non-creatable, non-modifiable
			The phase of the move operation. The move operation can have the following phases: • Queued - Phase where the move operation is queued for execution by the cluster.

phase		string optional	Initializing - Phase where the move operation is setting up resources and initializing them for moving the volume. • Replicating - Phase in which move operation is doing data copy from source volume to destination aggregate. • Cutover - Phase in which the move operation is attempting to switch over volume to the destination aggregate and ensuring client i/o and system operations go to the volume on the destination aggregate. In this phase client i/o and system operations are temporarily suspended while a final data copy is taking place from the current volume to the destination aggregate. • cutover_hard_deferred - Phase in which the move operation is deferring cutover due to some errors in the system during move. The move operation is waiting for corrective action from the admin or MEI tools to take place. The details field contains the reason for the error. • cutover_soft_deferred - Phase in which the move operation is deferring cutover due to some transient errors in the system during move. The move operation is replicating in the background and waiting for the transient error which is causing the soft deferral to clear up. If the move operation has not yet started the replication in the background, the 'Detailed Status' field will contain the reason for soft deferral. • Completed - The move operation has completed successfully and the volume is now on destination aggregate. • Finishing - The move operation performs a cleaning up before completing succesfully and the volume is now on destination aggregate. • cleaning_up - The move operation aborted and is in the process of cleaning up. This is a transient condition that will eventually lead to Failed phase. • Failed - The move operation was not successful. The details field and the code indicates the reason for the failure. • Failed - The move operation did not complete successfully. • Restarting - The move operation is restarting. Attributes: non-creatable, non-modifiable
prior-issues		string optional	The list of issues or transient errors encountered causing the move operation to retry the data copy phase or the cutover phase. For RR.1, there will be only one transient error reported. For later releases, there can be many transient errors seperated by newlines reported, with the order being earliest at top and latest error at the bottom of the list. This is a diag only field. Attributes: non-creatable, non-modifiable
replication-throughput		string optional	The current replication throughput of the move operation in terms of Kb/s, Mb/s or Gb/s. Attributes: non-creatable, non-modifiable
skip-delta-calculation		boolean optional	Indicates that the move should skip delta calculation. Attributes: non-creatable, non-modifiable
source-aggregate		string optional	The name of the aggregate where the volume being moved originally resides or resided. Attributes: non-creatable, non-modifiable
source-key-id		string optional	This is the encryption key-id of the source volume. Attributes: non-creatable, non-modifiable

source-node		string optional	The name of the node where the source aggregate is. Attributes: non-creatable, non-modifiable
start-timestamp	**[0..2^31-1]**	integer optional	The date and time in cluster timezone when the volume move started. Attributes: non-creatable, non-modifiable
state		string optional	The state of the volume move at the time of issuing the command and the system gathering up the information about the move. The states can have the following values: • Healthy - Volume move is proceeding as planned, with no issues so far • Done - Volume move has finished successfully. • Failed - Volume move has failed due to some reason, with the reason being available in the Detailed Status section. • Warning - Volume move has encountered a transient error condition during its operation, but is continuing on since then. The details and phase section has more context into the cause of the error. • Alert - Volume move has encountered a serious condition that cannot be rectified by the system alone and needs input from the upper layers (admin or tools) before proceeding. The volume move will go into Cutover-Deferred phase waiting for user intervention in case of errors, with volume move trigger-cutover being the way the move operation can be restarted. Attributes: non-creatable, non-modifiable
volume		volume-name optional	This is the name of the vserver-scoped volume being moved. Attributes: key, non-creatable, non-modifiable
volume-instance-uuid		uuid optional	This is the instance uuid of the vserver-scoped volume being moved. Attributes: non-creatable, non-modifiable
vserver		vserver-name optional	This is the name of the vserver in which the volume being moved is part of. Attributes: key, non-creatable, non-modifiable

Element definition: **volume-move-target-aggr-info**

[top]

Compatible target aggregate information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-name		aggr-name	Aggregate Name Attributes: key, non-creatable, non-modifiable

		optional	
available-size		size optional	Available size Attributes: non-creatable, non-modifiable
current-dest-capacity-tier-usage		size optional	Current Destination Capacity Tier Usage Attributes: non-creatable, non-modifiable
current-dest-performance-tier-availsize		size optional	Current Destination Performance Tier Available Size Attributes: non-creatable, non-modifiable
current-source-capacity-tier-usage		size optional	Current Source Capacity Tier Usage Attributes: non-creatable, non-modifiable
current-source-performance-tier-availsize		size optional	Current Source Performance Tier Available Size Attributes: non-creatable, non-modifiable
projected-dest-capacity-tier-usage		size optional	Projected Destination Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable
projected-dest-performance-tier-availsize		size optional	Projected Destination Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable
projected-source-capacity-tier-usage		size optional	Projected Source Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable
projected-source-performance-tier-availsize		size optional	Projected Source Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable
storage-type		string optional	Storage Type Attributes: non-creatable, non-modifiable

Element definition: **volume-option-info**

[top]

Option key and value.

Name	Range	Type	Description
name		string	Option key.
value		string	Option value.

Element definition: **volume-transition-volinfo**

[top]

Information describing the volume and how to transition it.

Name	Range	Type	Description
junction-path		string optional	The path in the vserver into which the volume should be mounted. Note that this is only valid for transitions from 7-mode to Cluster-mode and not untransition. Path should be of the format "/".
volume-name		string	The name of the volume which is to be transitioned.

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **autosize-info**

[top]

Autosize settings of the volume This appears only if the "verbose" parameter above is set to "true".

Name	Range	Type	Description
grow-threshold-percent	**[0..100]**	integer optional	The trigger capacity percentage at which the volume automatically grows.
increment-size	**[0..2^63-1]**	integer optional	The increment size by which the volume would be grown, in kbytes.
is-enabled		boolean optional	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. The value of 'true' means that autosize is enabled, while 'false' means that the autosize mode is 'off'.
maximum-size	**[0..2^63-1]**	integer optional	The maximum size to which the volume would be grown automatically, in kbytes.
minimum-size	**[0..2^63-1]**	integer optional	The minimim size to which the volume can be shrunk automatically, in kbytes.
mode		string optional	Defines the current mode of volume autosize. Legal modes include "grow", "grow_shrink", and "off".
shrink-threshold-percent	**[0..100]**	integer optional	The trigger capacity percentage at which the volume automatically shrinks.

Element definition: **clone-child-info**

[top]

Information describing each of the clones that are children of the current flexible volume.

Name	Range	Type	Description
clone-child-name		string	The name of a clone volume whose parent is the given flexible volume.

Element definition: **clone-parent-info**

[top]

Information describing the parentage of a flexible volume clone.

Name	Range	Type	Description
parent-snapshot-name		string	The name of the snapshot in 'parent-volume-name' serving as the parent of this clone.

parent-volume-name		string	The name of the flexible volume serving as the parent of this clone.

Element definition: **compression-info**

[top]

Note that the use of this element is deprecated, refer to the 'dense-status' element for compression status instead.

Name	Range	Type	Description
is-compression-enabled		string	Note that the use of this field is deprecated, refer to the 'is-compression-enabled' field in the 'dense-status' element instead.

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

Element definition: **plex-info**

[top]

Information for a plex.

Name	Range	Type	Description
is-online		boolean	"true" if the plex is online, "false" otherwise.
is-resyncing		boolean	"true" if the plex is currently resyncing, "false" otherwise.
name		string	Plex name, e.g. /myvol/plex0
plex-			

resync-pct-with-precision		string optional	If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12")
plex-status		string optional	Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active")
pool	**[0..1]**	integer optional	The pool to which the majority of disks in the plex belong.
raid-groups		raid-group-info[] optional	List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true".
resync-level	**[0..1]**	integer optional	If the plex is currently being resynced, then the resync level.
resyncing-percentage		integer optional	If the plex is currently being resynced, then the completion percentage. Range : [0..100].

Element definition: **sis-info**

[top]

Status and statistics for the SIS volume.

Name	Range	Type	Description
compress-saved		integer	The total disk space saved due to compression in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1]
dedup-saved		integer	The total disk space saved due to deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1]
last-operation-begin		string	Start timestamp of the last SIS operation.
last-operation-end		string	End timestamp of the last SIS operation.
last-operation-error		string	A human readable error message of the last SIS operation. Present when there was an error.
last-operation-size		integer	The size in bytes of the last SIS operation. Range : [0..2^64-1].
percent-compress-saved		integer	The percentage of disk space saved by compression on the referenced file system. Range: [0 - 100]
percent-dedup-saved		integer	The percentage of disk space saved by deduplication on the referenced file system. Range: [0 - 100]
percent-total-saved		integer	The percentage of disk space saved by compression & deduplication on the referenced file system. Range: [0 - 100]
percentage-saved		integer	Percentage of space savings generated by the shared space. This is calculated as [size-saved / (size-saved + size-used)]. This field appears if the SIS volume is online. Range : [0..100].
progress		string	The progress of the current SIS operation.
			The schedule for SIS operation on the volume. See sis-set-config for the

schedule		string	format of the schedule.
size-saved		integer	The disk space savings generated by the shared space. The size is in bytes. The size-saved plus the size-used would be the total space usage, if no space is shared. This field appears if the SIS volume is online. Range : [0..2^64-1].
size-shared		integer	Number of bytes in the used space that is shared. This field appears if this SIS volume is online. Range : [0..2^64-1].
state		string	Possible values: "enabled", or "disabled".
status		string	Possible values: "idle", "active", "pending", or "undoing".
total-saved		integer	The total disk space saved by compression & deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1]
type		string	Possible values: "regular" or "snapvault".

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snap-autodelete-info**

[top]

Snapshot autodelete policy settings. This appears only if the "verbose" parameter above is set to "true".

Name	Range	Type	Description
commitment		string	Possible values: "try", "disrupt", or "destroy". This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume and LUN clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume and LUN clones) to be deleted.
defer-delete		string	Possible values "scheduled", "user_created", "prefix", or "none". This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices.
delete-order		string	Possible values "oldest_first", "newest_first". This option determines if the oldest or newest snapshot is deleted first.
destroy-list		string	Possible values are the combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". These options specify the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to destroy.
prefix		string	This option provides the prefix string for the "prefix" value of the "defer_delete" option.
			Possible values: "on" or "off". This option determines if the snapshot

state		string	autodelete is currently enabled for the volume.
target-free-space		integer	This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage. Range: [1..100]
trigger		string	Possible values: "volume", "snap_reserve", or "(DEPRECATED)-space_reserve". This option determines the condition in which snapshots should be automatically deleted. Setting this option to "volume" triggers snapshot autodelete to run when the volume is near full. Setting this option to "snap_reseve" triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to "space_reserve" triggers snapshot autodelete to run when the space reserved in the volume is near full. NOTE: The option "space_reserve" is deprecated.

Element definition: **transition-info**

[top]

Information relating to any transition jobs running or previously run on this volume.

Name	Range	Type	Description
transition-state		string optional	Indicates the current state of the volume transition operation.
transitioned		boolean optional	Indicates whether the volume has gone through a transition operation.

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vm-align-info**

[top]

Information relating to Virtual Machine alignment settings on the volume.

Name	Range	Type	Description
tsse-local-savings		integer	The auto adaptive compression local savings. Range : [0..2^64-1].
tsse-migrate-savings		integer	The auto adaptive compression migrate savings. Range : [0..2^64-1].

vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this.

Element definition: **volume-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

Name	Range	Type	Description
check		volume-64bit-upgrade-check-info optional	Information returned when upgrade-64bit-mode in aggr-add is "check".

Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

Name	Range	Type	Description
on-access-policy		string optional	{Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'. If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces. Attributes: optional-for-create, modifiable

Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
encrypt		boolean optional	To create an encrypted Volume. This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted. Attributes: optional-for-create, non-modifiable
encryption-state		string optional	The encryption state of a volume. Possible values: • 'none' ... plain-text volume, • 'full' ... encrypted volume, • 'partial' ... volume are in mixed encryption state(valid for FlexGroup only), • 'converting_to_encrypted' ... conversion to encryption operation is in progress, • 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated), • 'rekeying' ... rekey of volume is in progress Attributes: non-creatable, non-modifiable
encryption-type		encryptiontype optional	Encryption type of a volume. Possible values: • 'none' ... plain-text volume, • 'volume' ... NVE (NetApp Volume Encryption) volume, • 'aggregate' ... NAE (NetApp Aggregate Encryption) volume Attributes: optional-for-create, non-modifiable Possible values: • "undefined" - Not defined, • "none" - Plain-text volume, • "volume" - NVE (NetApp Volume Encryption) volume, • "aggregate" - NAE (NetApp Aggregate Encryption) volume, • "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)
key-creation-time		string optional	The creation date and time of the key-id. The creation date and time of current key-id of the volume. Attributes: non-creatable, non-modifiable
key-id		string optional	The key-id used for creating encrypted volume. A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key. Attributes: non-creatable, non-modifiable
volume-antivirus-attributes		volume-antivirus-attributes optional	This field contains information about Antivirus On-Access settings for the volume.
volume-autobalance-attributes		volume-autobalance-attributes	This field contains information about the state of Auto Balance Aggregate for a volume.

		optional	
volume-autosize-attributes		volume-autosize-attributes optional	This field contains information about the autosize settings of the volume.
volume-clone-attributes		volume-clone-attributes optional	This field contains information applying exclusively to clone volumes.
volume-comp-aggr-attributes		volume-comp-aggr-attributes optional	This field contains information about composite aggregate attributes of a volume.
volume-directory-attributes		volume-directory-attributes optional	This field contains information related to directories in a volume.
volume-export-attributes		volume-export-attributes optional	This field contains information about export settings of the volume.
volume-flexcache-attributes		volume-flexcache-attributes optional	This field contains information applying exclusively to flexcache volumes.
volume-hybrid-cache-attributes		volume-hybrid-cache-attributes optional	This field contains information on Flash Pool caching attributes on a volume
volume-id-attributes		volume-id-attributes optional	This field contains identification information about the volume.
volume-infinitevol-attributes		volume-infinitevol-attributes optional	This field contains information about the state of an Infinite Volume.
volume-inode-attributes		volume-inode-attributes optional	This field contains information about inodes in a volume.
volume-language-attributes		volume-language-attributes optional	This field contains information about volume language-related settings.
volume-mirror-attributes		volume-mirror-attributes optional	This field contains information applying exclusive to volume mirror.
volume-performance-attributes		volume-performance-attributes optional	This field contains information that relates to the performance of the volume.
volume-qos-attributes		volume-qos-attributes optional	This field contains the information that relates to QoS.
volume-security-attributes		volume-security-attributes optional	This field contains information about volume security settings.

volume-sis-attributes		volume-sis-attributes optional	This field contains information about Deduplication, file clone, compression, etc.
volume-snaplock-attributes		volume-snaplock-attributes optional	This field contains information about snaplock attributes of the volume.
volume-snapshot-attributes		volume-snapshot-attributes optional	This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded.
volume-snapshot-autodelete-attributes		volume-snapshot-autodelete-attributes optional	This field contains information about snapshot autodelete policy settings.
volume-space-attributes		volume-space-attributes optional	This field contains information related to volume disk space management including on-disk layout.
volume-state-attributes		volume-state-attributes optional	This field contains information about the state or status of a volume or its features.
volume-transition-attributes		volume-transition-attributes optional	This field contains information applying exclusively to transitioned or transitioning volumes.
volume-vm-align-attributes		volume-vm-align-attributes optional	This field contains information related to the Virtual Machine alignment settings on a volume
volume-vserver-dr-protection-attributes		volume-vserver-dr-protection-attributes optional	This fields contains information about protection type for the volume in a Vserver DR setup.

Element definition: **volume-autobalance-attributes**

[top]

Information about the Auto Balance Aggregate state of a volume.

Name	Range	Type	Description
is-autobalance-eligible		boolean optional	When set to 'true', the volume is included in Auto Balance aggregate processing. When set to 'false', the volume is excluded from Auto Balance aggregate processing. This field is not set on FlexGroups. Attributes: optional-for-create, modifiable

Element definition: **volume-autosize-attributes**

[top]

Information about autosize settings of the volume.

Name	Range	Type	Description
grow-threshold-percent	**[0..100]**	integer optional	Used space threshold which triggers autogrow. When the volume-info.size-used is greater than this percent of volume-info.size-total, the volume will be grown. The computed value is rounded down. The default value of this element varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Attributes: optional-for-create, modifiable
is-enabled		boolean optional	This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'. Attributes: optional-for-create, modifiable
maximum-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which the volume would be grown automatically. The default value is 20% greater than the volume size. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size. Attributes: optional-for-create, modifiable
minimum-size	**[0..2^63-1]**	integer optional	The minimum size (in bytes) below which the volume would not be shrunk automatically. The default value is the initial size of the volume. It is an error for the minimum size to be greater than or equal to the maximum size. Attributes: optional-for-create, modifiable
mode		string optional	The current mode of operation of volume autosize. Valid modes are 'off', 'grow', and 'grow_shrink'. The default mode is 'off'. Attributes: optional-for-create, modifiable Possible values: • "off" , • "grow" , • "grow_shrink"
reset		boolean optional	Resets the values of autosize, max-autosize, min-autosize, autosize-shrink-threshold-percent, autosize-grow-threshold-percent and autosize-mode to their defaults. Attributes: non-creatable, modifiable
shrink-threshold-percent	**[0..100]**	integer optional	The used space threshold below which autoshrink is triggered. When the volume-info.size-used is less than this percent of volume-info.size-total, the volume will be shrunk. The computed value is rounded down. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Attributes: optional-for-create, modifiable

Element definition: **volume-clone-attributes**

[top]

Information about volume clones.

Name	Range	Type	Description
clone-child-count	**[0..2^32-1]**	integer optional	Number of clones for which this volume is the parent. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
inherited-physical-used		size optional	Inherited Physical Used from Clone's Base Snapshot. Attributes: non-creatable, non-modifiable
inherited-savings		size optional	Inherited Savings from Clone's Base Snapshot. Attributes: non-creatable, non-modifiable
volume-clone-parent-attributes		volume-clone-parent-attributes optional	This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage. This field is not set on FlexGroups.

Element definition: **volume-comp-aggr-attributes**

[top]

Information related to composite aggregate attributes of a volume.

Name	Range	Type	Description
aggressive-readahead-mode		string optional	This optional parameter specifies the volumes aggressive readahead mode. The available are: • none - No aggressive readahead. • file_prefetch - The file being read is prefetched. Attributes: optional-for-create, modifiable
cloud-retrieval-policy		string optional	This optional parameter specifies the cloud retrieval policy for the volume.This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are: • default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved. • on-read - This policy retrieves tiered data for all client driven data reads. • never - This policy never retrieves tiered data. • promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved. Attributes: optional-for-create, modifiable
			This optional parameter specifies whether the volume is in cloud write

is-cloud-write-enabled		boolean optional	mode. This parameter is only supported if the volume is in an aggregate that is attached to an object store and the volume has ALL or ARCHIVE tiering policy set. Attributes: non-creatable, modifiable
needs-object-retagging		boolean optional	Does the object tagging scanner need to run on this volume. This parameter is only supported if the volume is in an aggregate that is attached to an object store. Attributes: non-creatable, non-modifiable
tiering-minimum-cooling-days	**[2..183]**	integer optional	The minimum number of cooling days for user data. This field specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. The value specified should be greater than the frequency that applications in the volume shift between different sets of data. Valid values are between 2 and 183. Attributes: optional-for-create, modifiable
tiering-object-tags		string[] optional	Tags to be associated with objects stored on a fabricpool. Attributes: optional-for-create, modifiable
tiering-policy		string optional	The tiering policy associated with this volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier when they become cold. The possible values for this field are: • 'snapshot-only' - This policy allows tiering of only the volume snapshot copies not associated with the active file system. • 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier. • 'none' - Volume blocks will not be tiered to the capacity tier. • 'backup' - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier. Default tiering policy is 'snapshot-only' for flexible volumes and 'none' for FlexGroups. Attributes: optional-for-create, modifiable
tiering-storage-class		string optional	This optional parameter specifies the storage class that is attached with the FabricPool. This parameter is only supported if the volume is in an aggregate that is attached to an object store. Attributes: non-creatable, modifiable

Element definition: **volume-directory-attributes**

[top]

Information related to directories in the volume.

Name	Range	Type	Description

i2p-enabled		boolean optional	If true, native inode-to-parent information is kept for inodes. By default, this field is true. Attributes: non-creatable, non-modifiable
max-dir-size	**[0..2^63-1]**	integer optional	The maximum size (in bytes) to which any directory in this volume can grow. The default maximum directory size is set to 1% of the system memory. So if the system memory is 1GB, then the maximum directory size value will be 10MB which allows upto 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create. Attributes: optional-for-create, modifiable
root-dir-gen		string optional	This field contains the generation number of the root directory. Attributes: non-creatable, non-modifiable

Element definition: **volume-export-attributes**

[top]

Information about export settings of the volume.

Name	Range	Type	Description
policy		string optional	The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'. FlexGroups do not support policies that allow NFSv4 protocol access. Attributes: optional-for-create, modifiable

Element definition: **volume-flexcache-attributes**

[top]

Information about FlexCache volumes.

Name	Range	Type	Description
cache-policy		cache-policy optional	The name of the cache policy. The default policy name is 'default'. This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. Attributes: optional-for-create, modifiable
			The name of the fill policy. The default policy name is 'default'.

fill-policy		cache-policy optional	This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. Attributes: optional-for-create, modifiable
min-reserve		size optional	The amount of space requested to be preallocated in the aggregate hosting the FlexCache volume. Attributes: optional-for-create, modifiable
origin		volume-name optional	The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same vserver that owns this volume. Attributes: optional-for-create, non-modifiable

Element definition: **volume-hybrid-cache-attributes**

[top]

Information about the Flash Pool caching attributes of a volume.

Name	Range	Type	Description
cache-retention-priority		string optional	The cache retention priority policy associated with this volume. The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are: • low - Cache the cold blocks for the lowest time. • normal - Cache the cold blocks for the default time. • high - Cache the cold blocks for the highest time. Default cache retention priority is normal. Attributes: optional-for-create, modifiable
caching-policy		string optional	The caching policy associated with this volume. The caching policy that is to be associated with the volume. The policy decides how the flash pool caching has to happen for the volume. The possible values for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. • noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.

			• meta-random_write - Same as meta and noread-random_write. • random_read_write-random_write - Same as random_read_write and noread-random_write. • all_read-random_write - Same as all_read and noread-random_write. • all_read_random_write-random_write - Same as all_read_random_write and noread-random_write. • all-random_write - Same as all and noread-random_write. Note that in a caching-policy name, a hyphen (-) separates read and write policies. Default caching-policy is auto. Attributes: optional-for-create, modifiable
eligibility		string optional	Flash Pool caching eligibility of a volume Possible values: • 'read' ... Indicates that the volume cannot participate in write caching, • 'read-write' ... Indicates that the volume can participate in read and write caching, Attributes: non-creatable, non-modifiable
write-cache-ineligibility-reason		string optional	If the volume cannot participate in write caching, then this field explains the reason. Attributes: non-creatable, non-modifiable

Element definition: **volume-id-attributes**

[top]

Identification information about a volume.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. This field is returned only if it is explicitly requested using desired-attributes. This parameter is only supported on FlexGroups. Attributes: optional-for-create, non-modifiable
application		string optional	The application with which the Volume is associated. Attributes: non-creatable, non-modifiable
application-uuid		uuid optional	The unique identifier of the volume's application. Attributes: non-creatable, non-modifiable
comment		string optional	A description for the volume. Range:[0..1023] Attributes: optional-for-create, modifiable
containing-aggregate-name		string optional	The name of the aggregate in which the given flexible volume resides. This field is not set on FlexGroups.

			Attributes: optional-for-create, non-modifiable
containing-aggregate-uuid		uuid optional	The 128-bit universally-unique identifier of the aggregate in which the given volume resides. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
creation-time	**[0..2^31-1]**	integer optional	Creation time of the volume in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable
dsid	**[0..2^64-1]**	integer optional	The volume's Data Set ID. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
extent-size		string optional	Default extent size of a volume. Possible values: • '4K' 4K, • '8K' 8K • '16K' 16K • '32K' 32K Attributes: optional-for-create, modifiable
flexcache-endpoint-type		string optional	The FlexCache endpoint type of the volume. Volumes that are not part of a FlexCache realtionship will have the 'none' type. FlexCache origin volumes have the 'none' type however, this may change in a future release. type in a future release. FlexCache cache volumes have the 'cache' type. Possible values: • 'undefined' Undefined, • 'none' None • 'cache' Cache Attributes: non-creatable, non-modifiable
flexgroup-index	**[0..2^32-1]**	integer optional	The index of the constituent within its FlexGroup. Attributes: non-creatable, modifiable
flexgroup-msid	**[0..2^64-1]**	integer optional	The Mirror Set ID of a FlexGroup or a constituent's FlexGroup. Attributes: non-creatable, non-modifiable
flexgroup-uuid		uuid optional	Universal unique identifier (UUID) for the constituent's FlexGroup or the FlexGroup itself. This value only applies to FlexGroups and FlexGroup constituents. Attributes: non-creatable, non-modifiable
fsid		string optional	The File System Identifier (FSID) value that serves as one of this volume's internal indicies. This field is not set on FlexGroups. This value serves as an internal index for a volume. All volumes on a given controller must have unique FSIDs, except for the two special values described below: A value of 0 indicates that this volume does not currently have a legal FSID for some unexpected reason. Such volumes are forcibly kept offline until this attribute is assigned a legal value. A value of 1 indicates that this volume has recently appeared on its current controller due to having its aggregate be copied from a different controller. All volumes in this newly-created aggregate

			must be assigned legal, controller-unique IDs when they are onlined. That will be handled automatically by WAFL upon mount. If modifiable, this field may be set only when the volume is restricted. It may be set to any value that is not currently being used by any other volume on the same controller. If a request to set this value to '0' is received, the system will select a new value that is currently unused. Note that setting a volume's FSID sometimes has external effects. In particular, a 7-Mode volume's FSID is part of the NFS file handles constructed for its files. Attributes: non-creatable, non-modifiable
instance-uuid		uuid optional	Universal unique identifier (UUID) for the volume that remains unchanged when the volume is moved to a new location. This differs from the volume's regular UUID which changes after a move. The instance UUID can be used to identify a volume even after it is moved. This field is valid for flexible volumes only. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 Attributes: non-creatable, non-modifiable
junction-parent-name		volume-name optional	The name of the parent volume that contains the junction inode of this volume. The junction parent volume must belong to the same vserver that owns this volume. Attributes: non-creatable, non-modifiable
junction-path		junction-path optional	The Junction Path at which this volume is mounted. This field is valid only for a Cluster-Mode volume. Attributes: optional-for-create, non-modifiable
msid	**[0..2^64-1]**	integer optional	The volume's Mirror Set ID. This field is valid only for a Cluster-Mode volume. Attributes: non-creatable, non-modifiable
name		volume-name optional	The name of the volume. Attributes: key, required-for-create, non-modifiable
name-ordinal		string optional	The ordinal assignment used in relation to this volume's name. This field is not set on FlexGroups. Ordinals are used to disambiguate volumes that have the same base name on the same controller. A value of zero indicates that the base volume name is unique on a controller. A value greater than zero indicates that the volume's base name is used by two or more volumes on the same controller, and that appending '(n)' to this volume's name uniquely identifies it on that controller. A value of -1 indicates that the name ordinal has not yet been determined.

			Attributes: non-creatable, non-modifiable
node		node-name optional	The current node name the volume is associated with. The node name can change due to a volume move. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
nodes		node-name[] optional	The array of nodes which host one or more of this FlexGroup's constituents. This field is returned only if it is explicitly requested using desired-attributes. This parameter is only supported on FlexGroups. Attributes: optional-for-create, non-modifiable
owning-vserver-name		string optional	The name of the Vserver that owns this volume. Attributes: key, non-creatable, non-modifiable
owning-vserver-uuid		uuid optional	The 128-bit universally-unique identifier for the vserver that currently owns this volume. Attributes: non-creatable, non-modifiable
provenance-uuid		uuid optional	Universal unique identifier (UUID) for the volume that is used to identify the source volume in a mirroring relationship. When the mirroring relationship is broken, a volume's Instance UUID and Provenance UUID are made identical. An unmirrored volume's Provenance UUID is the same as its Instance UUID. This field is valid for flexible volumes only. UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. Here is an example of an actual UUID: 49e370d6-5b5a-11d9-9eb5-000100000529 Attributes: non-creatable, non-modifiable
style		volstyle optional	The style of the volume. Possible values: • 'flex' ... FlexVol, • 'infinitevol' . Infinite Volume Default value is 'flex'. Attributes: non-creatable, non-modifiable Possible values: • "flex" - Flexible Volume, • "infinitevol" - Infinite Volume
style-		string	The extended style of the volume. Possible values: • 'flexvol' FlexVol, • 'infinitevol' Infinite Volume

extended		optional	• 'infinitevol-constituent' Infinite Volume constituent • 'flexgroup' FlexGroup • 'flexgroup-constituent' FlexGroup constituent Attributes: non-creatable, non-modifiable
type		string optional	The type of the volume. Possible values: • 'rw' ... read-write volume, • 'ls' ... load-sharing volume, • 'dp' ... data-protection volume, • 'dc' ... data-cache volume (FlexCache), • 'tmp' ... temporary volume (not valid for create) Default value is 'rw'. Attributes: optional-for-create, non-modifiable
uuid		uuid optional	Universal unique identifier (UUID) for this volume. Attributes: non-creatable, non-modifiable

Element definition: **volume-infinitevol-attributes**

[top]

Information about the state of an Infinite Volume.

Name	Range	Type	Description
constituent-role		repos-constituent-role optional	This field specifies the role of a constituent within a FlexGroup or an Infinite Volume constituent. This field is only supported for FlexGroup and Infinite Volume constituents. Attributes: optional-for-create, non-modifiable Possible values: • "none" , • "namespace" , • "data" , • "root" , • "ns_mirror" , • "member"
enable-snapdiff		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Whether to enable Snapdiff. If enabled, the namespace mirrors will be created for Snapdiff use. The default value is false. Attributes: optional-for-create, modifiable
is-managed-by-service		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies if the volume is managed by GUI services. The deafult value is false. Attributes: optional-for-create, modifiable
max-data-			This parameter is no longer supported as of ONTAP 9.5.0. The maximum size of each data constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on

constituent-size		size optional	all nodes used by the Infinite Volume. The smallest value found is chosen as the default for the max-data-constituent-size for the Infinite Volume. Attributes: optional-for-create, modifiable
max-namespace-constituent-size		size optional	This parameter is no longer supported as of ONTAP 9.5.0. The maximum size of the namespace constituent. The default value is 10TB. Attributes: optional-for-create, modifiable
namespace-mirror-aggr-list		aggr-name[] optional	This parameter is no longer supported as of ONTAP 9.5.0. Specifies an array of names of aggregates to be used for Infinite Volume Namespace Mirror constituents. If this input is not specified all the aggregates assigned to the Vserver are used. If the argument 'enable-snapdiff' is being set to 'true', and the Infinite Volume is managed by storage services, a value must be provided. Attributes: optional-for-create, modifiable
storage-service		string optional	This parameter is no longer supported as of ONTAP 9.5.0. The name of the initial storage service for the Infinite Volume. This can only be provided if is-managed-by-service is true. Attributes: optional-for-create, modifiable

Element definition: **volume-inode-attributes**

[top]

Information about inodes in the volume.

Name	Range	Type	Description
block-type		string optional	The indirect block format of the volume. Possible values: • '32_bit', • '64_bit' Attributes: non-creatable, non-modifiable
files-private-used	**[0..2^64-1]**	integer optional	Number of system (not user-visible) files (inodes) used. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
files-set-maximum		boolean optional	Whether the volume's inode count is set to the highest value the volume can hold. Attributes: optional-for-create, modifiable
files-total	**[0..2^64-1]**	integer optional	Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold. Attributes: non-creatable, modifiable
files-used	**[0..2^64-1]**	integer optional	Number of user-visible files (inodes) used. This field is valid only when the volume is online.

			Attributes: non-creatable, non-modifiable
inodefile-private-capacity	**[0..2^64-1]**	integer optional	Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
inodefile-public-capacity	**[0..2^64-1]**	integer optional	Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
inofile-version	**[0..2^32-1]**	integer optional	The inofile version. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable

Element definition: **volume-language-attributes**

[top]

Information about the volume language settings.

Name	Range	Type	Description
is-convert-ucode-enabled		boolean optional	This field controls whether all directories in this volume are forcibly converted to UNICODE format when accessed from both NFS and CIFS. The default value for 7-Mode volumes is false, in which case access from CIFS causes conversion of pre-4.0 and 4.0-format directories, and access from NFS causes conversion to 4.0-format directories. The default value for Cluster-Mode volumes is true. Note that this field can be set to false if and only if the volume is a 7-Mode volume, or a Cluster-Mode volume that was transitioned from 7-Mode. Attributes: non-creatable, modifiable
is-create-ucode-enabled		boolean optional	This field controls whether all directories in this volume are forced to use the UNICODE format when they are created, both from NFS and CIFS. The default value is false for 7-Mode volumes, in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. The default value is true for Cluster-Mode volumes. Note that this field can be set to false if and only if the volume is a 7-Mode volume. Attributes: non-creatable, non-modifiable
language		string optional	The volume's fully-qualified language mapping, in the form: 'LanguageCode (Full Name).' Example: 'en_US (English (US)).' Attributes: non-creatable, non-modifiable
language-code		language-code optional	The volume's language code (e.g. 'en_US'). Volume language can be specified using 'language-code' parameter. Attributes: optional-for-create, modifiable

nfs-character-set		string optional	The NFS language mapping character set that is currently in effect for the volume. This field is of the following format: • '<nfs-character-set>|<display-name>|<asctime>' Note that '|' is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.' It uses the C Programming Language Printf format: • '%.3s %.3s%3d %02d:%02d:%02d %s %d' This format takes the following parameters in order: • <weekday name>, • <month name>, • <month day>, • <hour>, • <minute>, • <second> • <timezone> OR <''>, • <year> E.g., If the volume language code is set to 'en_US,' the default NFS character set is as follows: • 'iso-8859-1|iso-8859-1|Thu Oct 1 15:00:53 PDT 1998' Attributes: non-creatable, non-modifiable
oem-character-set		string optional	The OEM language mapping character set that is currently in effect for the volume. This field is of the following format: • '<oem-code-page>|<display-name>|<asctime>' Note that '|' is not an OR syntax. <asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.' It uses the C Programming Language Printf format: • '%.3s %.3s%3d %02d:%02d:%02d %s %d' This format takes the following parameters in order: • <weekday name>, • <month name>, • <month day>, • <hour>, • <minute>, • <second>, • <timezone> OR <''>, • <year> E.g., If the volume language code is set to 'en_US,' the default OEM character set is as follows:

			• 'cp437|cp437|Thu Oct 1 15:00:53 PDT 1998' Attributes: non-creatable, non-modifiable

Element definition: **volume-mirror-attributes**

[top]

Information about the volume mirror.

Name	Range	Type	Description
is-data-protection-mirror		boolean optional	True if this is a data protection mirror. Attributes: non-creatable, non-modifiable
is-load-sharing-mirror		boolean optional	True if this is a load sharing mirror. Attributes: non-creatable, non-modifiable
is-move-mirror		boolean optional	True if this is a volume move mirror. Attributes: non-creatable, non-modifiable
is-replica-volume		boolean optional	True if this is a read only replica volume. Attributes: non-creatable, non-modifiable
is-snapmirror-source		boolean optional	True if this is a SnapMirror source. For load-sharing relationships a volume becomes a SnapMirror source at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source. Attributes: non-creatable, non-modifiable
is-snapmirror-source-to-object-store		boolean optional	True if this is a SnapMirror source to object store. For SnapMirror relationships with object store destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source for object store. Attributes: non-creatable, non-modifiable
is-snapmirror-source-to-ontap		boolean optional	True if this is a SnapMirror source to ONTAP. For load-sharing relationships a volume becomes a SnapMirror source to ontap at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types with ONTAP destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source to ONTAP. Attributes: non-creatable, non-modifiable
			True if a SnapMirror transfer is in progress on this mirrored volume.

mirror-transfer-in-progress		boolean optional	This mirror's active filesystem can be inconsistent during snapmirror transfer. As a result, snapshot create operation is temporary disabled on this mirror until the current transfer session finishes. This field is set to true at the start of a SnapMirror transfer session and set to false at the end of that session. Attributes: non-creatable, non-modifiable
redirect-snapshot-id	**[0..255]**	integer optional	If the volume is a logical mirror destination or is in the process of being made one, this field indicates the logical-id of the snapshot to which clients are to be redirected. If modifiable, when setting this attribute, invalid snapshot id or a non-existent snapshot id specified will be rejected with error ESNAPSHOTDOESNOTEXIST. Failure to set ('stamp') the attribute in the volume will cause error ESTAMPREDIRECTSNAPIDERROR to be returned. This field can be set only for online volumes. This option is valid only in Cluster-Mode. The volume can be set to have no redirection snapshot by using a value of 0. This option can be set only for Cluster-Mode volumes participating in a logical-mirror relationship. Setting this field on a Cluster-Mode volume which is not a logical mirror destination (yet) will not have any impact on client access or the volume's behavior. The client access will be impacted with regard to this value only when the volume is converted to a logical-mirror destination. When reading this attribute, the value of 0 indicates volume has no redirection snapshot. The field cannot be interpreted authoritatively if the volume is offline or restricted. Attributes: non-creatable, non-modifiable

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **volume-performance-attributes**

[top]

Information about performance settings on a volume.

Name	Range	Type	Description
atime-update-period	**[0..2^32-1]**	integer optional	The periodical value to know when to update the atime. By default, the value is 0 seconds but for FlexCache and origin volumes, it is 86400 seconds. Attributes: optional-for-create, modifiable
extent-enabled		string optional	This parameter has been deprecated and may be removed in a future release of Data ONTAP. If turned on, this field enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. The following values are recognized: • 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed. • 'space-optimized' ... Perform this optimization on this volume, but do not duplicate blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded. • 'off' ... Don't perform this optimization on this volume. By default, it is set to 'off'. Using extents may help workloads that perform many small random writes followed by a large sequential read. However, using extents may increase the number of disk operations performed on the controller, so this field should only be turned on when applicable. Attributes: non-creatable, modifiable
fc-delegs-enabled		boolean optional	If true, FlexCache Read Delegations are turned on for this volume. On by default, only settable in Diag mode. Attributes: non-creatable, modifiable
is-atime-update-enabled		boolean optional	If false, prevent the update of inode access times when a file is read. This value is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files. By default, this value is true. This field should be used carefully. That is, use this field when you know in advance that the correct access time for inodes will not be needed for files on that volume. Attributes: non-creatable, modifiable
is-preserve-unlink-enabled		boolean optional	Specifies whether the preserve-unlink enabled for NFSv4.1 shares. When enabled, it means that a file removal op on a file with existing share locks will result in the file getting moved to a trash directory. Clients will be able to access the file using the file handle. The last close for that file will result in deletion of the file. By default, the value is false. Attributes: optional-for-create, modifiable
max-			The maximum number of blocks used for write allocation.

write-alloc-blocks	**[0..2048]**	integer optional	This option is deprecated. Attributes: optional-for-create, modifiable
minimal-read-ahead		boolean optional	If true, the node performs minimal read-ahead for the volume. By default, this field is false, causing the node that contains this volume to perform very aggressive read-ahead. Attributes: non-creatable, modifiable
read-realloc		string optional	Controls whether application reads cause optimization of the layout of parts of a file or LUN after the data has been read from disk and is in the controller's memory. This optimization is only supported for flexible volumes. The following values are recognized: • 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed. • 'space-optimized' ... Perform this optimization on this volume, but do not duplicated blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded. • 'off' ... Don't perform this optimization on this volume. By default, it is set to 'off'. Using read reallocation may help workloads that perform a mixture of random writes and large sequential reads. Attributes: non-creatable, modifiable
single-instance-data-logging		string optional	Indicates whether Single Instance Data Logging is enabled on the volume. This feature is supported only on Cloud ONTAP. Possible values: • 'on' : Single Instance Data Logging enabled. • 'off' : Single Instance Data Logging disabled. The default value is 'off'. Attributes: non-creatable, non-modifiable

Element definition: **volume-qos-attributes**

[top]

QoS policy group or adaptive policy group attached with a volume.

Name	Range	Type	Description
adaptive-policy-group-name		string optional	The QoS adaptive policy group associated with this volume. This optionally specifies which QoS adaptive policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that adjust based on the volume allocated space or used space. This parameter is not supported on Infinite Volumes. Attributes: optional-for-create, modifiable
			The QoS policy group associated with this volume.

policy-group-name		string optional	This optionally specifies which QoS policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that do not adjust based on the volume allocated space or used space. If you do not assign a policy group to a volume, the system will not monitor and control the traffic to it. This parameter is not supported on Infinite Volumes. Attributes: optional-for-create, modifiable

Element definition: **volume-security-attributes**

[top]

All security aspects of a volume.

Name	Range	Type	Description
style		string optional	The security style associated with this volume. Possible values: • 'mixed' ... Mixed-style security, • 'ntfs' ... NTFS/Windows-style security, • 'unified' .Unified-style security, Unified UNIX, NFS and CIFS permissions (default for Infinite Volume) • 'unix' ... Unix-style security (default for Flexible Volume, FlexGroup and FlexGroup Constituent) This field is only returned if this volume is online. If this field is empty ('') or not present for an online volume, this attribute isn't applicable to the volume. Only Infinite Volumes can use the 'unified' security style. All other volumes cannot use the 'unified' security style. Using 'unified' for a non-Infinite Volume will result in an error. FlexGroups and FlexGroup Constituents can only have 'unix' security style. Setting other security styles for FlexGroups or FlexGroup Constituents will result in an error. Attributes: optional-for-create, modifiable
volume-security-unix-attributes		volume-security-unix-attributes optional	The Unix-oriented security settings associated with this volume.

Element definition: **volume-sis-attributes**

[top]

Statistics for Deduplication, file clone, compression, etc.

Name	Range	Type	Description
compression-space-saved	**[0..2^63-1]**	integer optional	The total disk space (in bytes) that is saved by compressing blocks on the referenced file system. Attributes: non-creatable, non-modifiable
deduplication-space-saved	**[0..2^63-1]**	integer optional	The total disk space (in bytes) that is saved by deduplication and file cloning.

			Attributes: non-creatable, non-modifiable
deduplication-space-shared		size optional	The total disk space shared due to deduplication and file cloning. Attributes: non-creatable, non-modifiable
is-sis-logging-enabled		boolean optional	If true, it means that sis is enabled on the volume and fingerprints of newly-written data are being logged. Attributes: non-creatable, non-modifiable
is-sis-state-enabled		boolean optional	If true, it means that the current sis state is enabled on the volume. Attributes: non-creatable, non-modifiable
is-sis-volume		boolean optional	If true, it means that the volume contains shared (deduplication, file clones) or compressed data. If SIS is disabled, this field is false. Attributes: non-creatable, non-modifiable
percentage-compression-space-saved	**[0..100]**	integer optional	Percentage of the total disk space that is saved by compressing blocks on the referenced file system. Attributes: non-creatable, non-modifiable
percentage-deduplication-space-saved	**[0..100]**	integer optional	Percentage of the total disk space that is saved by deduplication and file cloning. Attributes: non-creatable, non-modifiable
percentage-total-space-saved	**[0..100]**	integer optional	Percentage of total disk space that is saved by compressing blocks, deduplication and file cloning. Attributes: non-creatable, non-modifiable
total-space-saved	**[0..2^63-1]**	integer optional	Total space saved (in bytes) in the volume due to deduplication, compression, and file cloning. Attributes: non-creatable, non-modifiable

Element definition: **volume-snaplock-attributes**

[top]

Information about the snaplock volumes.

Name	Range	Type	Description
snaplock-type		snaplocktype optional	SnapLock type of the volume. Attributes: optional-for-create, non-modifiable Possible values: • "non_snaplock" - Non SnapLock, • "compliance" - SnapLock Compliance, • "enterprise" - SnapLock Enterprise

Element definition: **volume-snapshot-attributes**

[top]

Information about snapshot-related attributes in a volume. Volume disk space-related settings are excluded.

Name	Range	Type	Description
auto-snapshots-enabled		boolean optional	If true, enable automatic snapshots on the volume. The default value is true. Attributes: non-creatable, non-modifiable
snapdir-access-enabled		boolean optional	If true, enable the visible '.snapshot' directory that is normally present at system internal mount points. This value also turns on access to all other '.snapshot' directories in the volume. The default value is true. Attributes: optional-for-create, modifiable
snapshot-clone-dependency-enabled		boolean optional	Controls the locking of LUN clones. If true, all initial and intermediate backing snapshots are unlocked for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked. If false, the backing snapshot will remain locked until all intermediate backing snapshots are deleted. This field is deprecated and will always be false in Data ONTAP 8.3 and later. Attributes: non-creatable, modifiable
snapshot-count	**[0..1023]**	integer optional	Number of Snapshot Copies in the volume. Attributes: non-creatable, non-modifiable
snapshot-policy		string optional	The name of the snapshot policy. The default policy name is 'default'. This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs. Attributes: optional-for-create, modifiable

Element definition: **volume-snapshot-autodelete-attributes**

[top]

Snapshot autodelete policy settings.

Name	Range	Type	Description
commitment		string optional	Possible values: • 'try', • 'disrupt', or • 'destroy' This option determines the snapshots that 'snapshot autodelete' is allowed to delete to get back space. Setting this option to 'try' only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data-backing functionalities

			(volume and LUN clones) to be deleted. Setting this option to 'disrupt' permits all snapshots including the snapshots which are locked by data-backing functionalities (volume and LUN clones) to be deleted. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
defer-delete		string optional	Possible values: • 'scheduled', • 'user_created', • 'prefix', or • 'none' This option determines which kind of snapshots to delete. Setting this option value to 'scheduled' will delete the snapshots created by the snapshot scheduler last. Setting this option value to 'user_created' will delete the snapshots not created by the snapshot scheduler last. Setting this option value to 'prefix' will delete the snapshots matching the prefix string to be deleted last. Setting this option value to 'none' will disable the above choices. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
delete-order		string optional	Possible values: • 'oldest_first', • 'newest_first' This option determines if the oldest or newest snapshot is deleted first. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
destroy-list		string optional	Possible values are the combination of: • 'lun_clone', • 'vol_clone', • 'cifs_share', • 'file_clone', • 'sfsr', or • 'none' This options specifies the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to 'destroy'. The option 'lun_clone,file_clone' should be used for deleting snapshot backing LUN clone and/or File clone. The option 'lun_clone,sfsr' should be used for deleting snapshot backing LUN clone and/or SFSR. It must be noted that 'lun_clone', 'file_clone' and 'sfsr' individually are not valid values. Only pairs of 'lun_clone,file_clone' and 'lun_clone,sfsr' are supported. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
is-autodelete-enabled		boolean optional	This option determines if the snapshot autodelete is currently enabled for the volume. The default value is false. Attributes: non-creatable, modifiable
prefix		string optional	This option provides the prefix string for the 'prefix' field value of the 'defer-delete' option. If the null prefix is set, the string '(not specified)' is returned. This field is not set on FlexGroups. Attributes: non-creatable, modifiable

target-free-space	**[0..100]**	integer optional	This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted until we reach the target free space percentage. This field is not set on FlexGroups. Attributes: non-creatable, modifiable
trigger		string optional	Possible values: • 'volume', • 'snap_reserve', or • '(DEPRECATED)-space_reserve' This option determines the condition in which snapshots should be automatically deleted. This field is not set on FlexGroups. If modifiable, setting this option to 'volume' triggers snapshot autodelete to run when the volume is near full. Setting this option to 'snap_reserve' triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to 'space_reserve' triggers snapshot autodelete to run when the space reserved in the volume is near full. Attributes: non-creatable, modifiable

Element definition: **volume-space-attributes**

[top]

Information about volume space management-related settings including on-disk layout.

Name	Range	Type	Description
expected-available	**[0..2^63-1]**	integer optional	The size (in bytes) that should be available for the volume irrespective of available size in the aggregate. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volume's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameteris not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
filesystem-size	**[0..2^63-1]**	integer optional	Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
is-filesys-size-fixed		boolean optional	If true, this field causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken. This option is automatically set to 'true' when a volume becomes SnapMirrored. It remains true after the SnapMirror relationship is broken for the volume. This field allows a volume to be SnapMirrored back to the source without needing to grow the source volume. If the volume size is larger than the file system size, setting

			this field to false forces the file system to grow to the size of the volume. Attributes: non-creatable, modifiable
is-space-enforcement-logical		boolean optional	This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. The default setting is false. Attributes: optional-for-create, modifiable
is-space-guarantee-enabled		boolean optional	Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field is valid only if this is a flexible volume and it is online. By default, space guarantee is enabled. Attributes: non-creatable, non-modifiable
is-space-reporting-logical		boolean optional	This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. The default setting is false. Attributes: optional-for-create, modifiable
is-space-slo-enabled		boolean optional	Whether or not the space SLO type associated with the flexible volume is currently in effect. Space SLO is not enabled if space guarantee is not enabled. Try enabling the space guarantee or set the volume's space SLO setting to 'none'. This field is valid only if this is a flexible volume and it is online. By default, space SLO type is none and is enabled. Attributes: non-creatable, non-modifiable
is-used-stale		string optional	If true, the used counter is stale. By default, this field is false. Attributes: non-creatable, non-modifiable
logical-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically available in the volume. This is the amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
logical-used	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
logical-used-by-afs	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used by the active filesystem of the volume. This value differs from 'logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable

logical-used-by-snapshots	**[0..2^63-1]**	integer optional	The size (in bytes) that is logically used across all Snapshot copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
logical-used-percent	**[0..2^32-1]**	integer optional	Percentage of the logical used size of the volume. This parameter is not supported on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
max-constituent-size		size optional	The maximum size of each constituent in bytes. The default value is determined by first checking the maximum FlexVol size setting on all nodes used by the FlexGroup, and then selecting the smallest value found. This parameter is only supported on FlexGroups. Attributes: optional-for-create, modifiable
over-provisioned	**[0..2^63-1]**	integer optional	The size (in bytes) that is not available in the aggregate for a volume. This applies only for a 'none' guaranteed volume when it's unused size exceeds available space in the aggregate. This value is always zero for 'volume' guaranteed volumes. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
overwrite-reserve	**[0..2^63-1]**	integer optional	The size (in bytes) that is reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to 'overwrite-reserve-required' if the value of 'percentage-fractional-reserve' is set to the default value of 100%, but otherwise may be less than 'overwrite-reserve-required'. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
overwrite-reserve-required	**[0..2^63-1]**	integer optional	The reserved size (in bytes) that is required to ensure that the reserved space is sufficient to allow all space-reserved files and LUNs to be overwritten when the volume is full. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
overwrite-reserve-used	**[0..2^63-1]**	integer optional	The reserved size (in bytes) that is not available for new overwrites. The number includes both the reserved size which has actually been used for overwrites as well as the size which was never allocated in the first place. On a volume without free space, the 'never allocated' component can become non-zero when 'overwrite-reserve-required' increases as holes are filled in. Because of this, the 'overwrite-reserve-used' value can exceed the snapshotted size. The 'overwrite-reserve-used' value can also exceed the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
overwrite-	**[0..2^63-**	integer	The reserved size (in bytes) that has been used. This value is computed as the smaller of: (1) snapshotted size not in the active filesystem, and (2) 'overwrite-reserve-used'. This formula comes from the observation that you cannot have used more overwrite reserved than have actually overwritten data. This value can exceed

reserve-used-actual	**1]**	optional	the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
percentage-fractional-reserve	**[0..100]**	integer optional	This field can be used to change the amount of space reserved for overwrites of reserved objects (e.g., files, LUNs) in a volume. This field is expressed as a percent. By default, it is set to 100, indicating that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites. Using a value of less than 100 indicates the percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors, since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted, this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion. Attributes: non-creatable, modifiable
percentage-size-used	**[0..100]**	integer optional	Percentage of the volume size that is used. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
percentage-snapshot-reserve	**[0..100]**	integer optional	The percentage of volume disk space that has been set aside as reserve for snapshot usage. Attributes: optional-for-create, modifiable
percentage-snapshot-reserve-used	**[0..2^32-1]**	integer optional	Percentage of the volume reserved for snapshots that has been used. Note that in some scenarios, it is possible to pass 100% of the space allocated. Attributes: non-creatable, non-modifiable
performance-tier-inactive-user-data	**[0..2^63-1]**	integer optional	The size (in bytes) that is physically used in the performance tier of the volume and has a cold temperature. This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an object store. Attributes: non-creatable, non-modifiable
performance-tier-inactive-user-data-percent	**[0..100]**	integer optional	The size (in percent) that is physically used in the performance tier of the volume and has a cold temperature. The percentage is based on volume size including the space reserved for Snapshot copies. This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an object store. Attributes: non-creatable, non-modifiable
			The size (in bytes) that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies.

physical-used	**[0..2^63-1]**	integer optional	This field is valid only if the volume is online. Attributes: non-creatable, non-modifiable
physical-used-percent	**[0..2^32-1]**	integer optional	The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies. This field is valid only if the volume is online. Attributes: non-creatable, non-modifiable
size	**[0..2^63-1]**	integer optional	Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This field can not be set on Infinite Volumes that are managed by storage services. Attributes: optional-for-create, modifiable
size-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is still available in the volume. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
size-available-for-snapshots	**[0..2^63-1]**	integer optional	Total free space (in bytes) available in the volume and the snapshot reserve. If this value is 0 or negative, a new snapshot cannot be created. Attributes: non-creatable, non-modifiable
size-total	**[0..2^63-1]**	integer optional	Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
size-used	**[0..2^63-1]**	integer optional	The size (in bytes) that is used in the volume. This field is valid only when the volume is online. Attributes: non-creatable, non-modifiable
size-used-by-snapshots	**[0..2^63-1]**	integer optional	The size (in bytes) that is used by snapshots in the volume. Attributes: non-creatable, non-modifiable
snapshot-reserve-available	**[0..2^63-1]**	integer optional	The size (in bytes) that is available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For 'none' guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable
snapshot-reserve-size	**[0..2^63-1]**	integer optional	The size (in bytes) in the volume that has been set aside as reserve for snapshot usage. Attributes: non-creatable, non-modifiable
space-full-threshold-percent	**[0..100]**	integer optional	This field defines the used space threshold percentage at which EMS critical errors regarding the volume fullness will be generated. The default value is 98%. Setting this threshold to 0 disables the volume full space alerts. This field is valid only if the volume is online. Attributes: non-creatable, modifiable

space-guarantee		string optional	The storage guarantee option that is associated with the flexible volume. Possible options: • 'none', • 'volume' (default option) This field is valid only if the volume is online. For data-cache volumes, this field is not returned. This field can not be set on Infinite Volumes that are managed by storage services. Attributes: optional-for-create, modifiable Possible values: • "none" , • "volume"
space-mgmt-option-try-first		string optional	This field controls the strategy to try first when this volume is space-challenged. This field is not set on FlexGroups. There are two available settings: • 'volume_grow' ... (default setting) Causes the volume to increase in size before deleting snapshots, • 'snap_delete' ... Causes snapshots to be deleted before the volume size is increased. Attributes: non-creatable, modifiable
space-nearly-full-threshold-percent	**[0..100]**	integer optional	This field defines the used space threshold percentage at which EMS warnings regarding the volume fullness will be generated. The default value is 95%. Setting this threshold to 0 disables the volume nearly full space alerts. This field is valid only if the volume is online. Attributes: non-creatable, modifiable
			The space SLO type that is associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside to meet the space SLO. This parameter is not supported on Infinite Volumes. The default setting is none. There are three supported values: none, thick and semi-thick. none: The value of none does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors. thick: The value of thick guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported. • Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's fractional-reserve setting is not supported.

space-slo		space-slo-enum optional	semi-thick: The value of semi-thick is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified: • Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported. • Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's fractional-reserve setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved. • Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: ◦ enabled: true ◦ commitment: destroy ◦ trigger: volume ◦ defer-delete: none ◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share In addition, with a value of semi-thick, the following technologies are not supported for the volume: • File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of autodelete for file clone create is required. • Partial File Clones: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of range for file clone create is not supported. • Volume Efficiency: Enabling volume efficiency is not supported to allow autodeletion of Snapshot copies. Possible options: • 'thick', • 'semi-thick', • 'none' (default option) This field is valid only if the volume is online. For data-cache volumes, this field is not returned. This field can not be set on Infinite Volumes that are managed by storage services. Attributes: optional-for-create, modifiable Possible values: • "none" , • "thick" , • "semi_thick"

Element definition: **volume-state-attributes**

[top]

Information about the state or status of a volume or its features.

Name	Range	Type	Description
become-node-root-after-reboot		boolean optional	Whether this non node-root volume has been marked as the one that will become the node root volume the next time the hosting controller is rebooted. Only one volume at a time may have this marking on any given controller. This field is not directly settable. Instead, a legal request to set the 'is-node-root' attribute (if modifiable) causes this field to be set. Note that marking a volume that is already the node root volume as the new node root has no net effect. This field is not set on FlexGroups. By default, this field is false. Attributes: non-creatable, non-modifiable
constituent-count	**[0..2^32-1]**	integer optional	Number of constituents in a FlexGroup. Attributes: non-creatable, non-modifiable
force-nvfail-on-dr		boolean optional	If true, volume would be put in a special state called 'in-nvfailed-state' by 'metrocluster-switchover' API that performs a disaster recovery operation. This field has no effect for negotiated or an automatic switchover, and is not set on FlexGroups. The protocol access on the volume in 'in-nvfailed-state' is blocked. This will cause the client applications to crash and thus prevent access to data on the volume. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume. By default, this value is false. Attributes: non-creatable, modifiable
ignore-inconsistent		boolean optional	If true, then the volume can be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running wafliron may result in further file system inconsistency. This field is not set on FlexGroups. By default, this field is false. Attributes: non-creatable, non-modifiable
in-nvfailed-state		boolean optional	The user can only clear this state and never set it. The file system will set this state on the volume if NVFAIL event occurs. So long as the volume is in this state, all protocol Ops with a special SpinNP flag set are blocked. By clearing this state on the volume, the admin will allow protocol access to the data on the volume and can initiate the recovery process. By default, this field is false. Attributes: non-creatable, modifiable
			Indicates whether this volume is a Cluster-Mode volume, namely one that is owned by cluster authorities and agents. These same clustering agents also provide all protocol services for this class of volume. Cluster-Mode volumes are not supported in 7-Mode Data ONTAP deployments. All such volumes are forced offline whenever they are detected in that environment.

is-cluster-volume		boolean optional	Similarly, all 7-Mode volumes on a Data ONTAP Cluster-Mode system (except each controller's root volume) are by default forced offline. There are exceptions, in particular when a 7-Mode volume is being prepared to become that controller's new root volume in a recovery scenario. At the moment, traditional volumes cannot be Cluster-Mode volumes. By default, this field is false. Attributes: non-creatable, non-modifiable
is-constituent		boolean optional	This field indicates if this volume is a constituent within another volume. For a FlexGroup or Infinite Volume, this field is true for all their constituents. This field is set to false for volumes which are not the constituents of a FlexGroup or Infinite Volume. The default value is false. Attributes: non-creatable, non-modifiable
is-flexgroup		boolean optional	This field indicates if this volume is a FlexGroup. Attributes: non-creatable, non-modifiable
is-flexgroup-qtree-enabled		boolean optional	Indicates whether a FlexGroup or origin of a FlexCache volumesupports creation of Qtrees. Attributes: non-creatable, non-modifiable
is-inconsistent		boolean optional	Whether or not there is known inconsistency in the file system associated with the volume. By default, the value is false. Attributes: non-creatable, non-modifiable
is-invalid		boolean optional	Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted SnapMirror(R) initial transfer. In such a case, a volume is in a half-created state and cannot be recovered. By default, the value is false. Attributes: non-creatable, non-modifiable
is-junction-active		boolean optional	This field indicates whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. Attributes: optional-for-create, modifiable
is-move-destination-in-cutover		boolean optional	Indicates whether the volume is the destination of a move that is in cutover. Attributes: non-creatable, non-modifiable
is-moving		boolean optional	Is the given volume moving? If true, this volume is moving from one aggregate to another aggregate in the cluster. The aggregates can be on different nodes of the cluster. Attributes: non-creatable, non-modifiable
is-node-root		boolean optional	If true, this volume is the root volume of the node in which it resides. This field is not set on FlexGroups. Only the node's internal logic can change this option's value from true to false; this happens when some other volume has the value set to true.

			By default, this field is false. Attributes: non-creatable, non-modifiable
is-nvfail-enabled		boolean optional	If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure. For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found. For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume. To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume. By default, this value is false. Attributes: optional-for-create, modifiable
is-protocol-access-fenced		boolean optional	This field indicates if this volume is fenced for protocol access. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access. Attributes: non-creatable, non-modifiable
is-quiesced-in-memory		boolean optional	Is the given volume quiesced? If true, this volume is in an (in-memory) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false. Attributes: non-creatable, non-modifiable
is-quiesced-on-disk		boolean optional	Is the given volume quiesced? If true, this volume is in an (on-disk) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false. Attributes: non-creatable, non-modifiable
is-smbc-failover-capable		boolean optional	This field indicates if volume is SMBC failover capable. This parameter is only supported if volume is part of SMBC relationship Attributes: non-creatable, non-modifiable
is-smbc-master		boolean optional	This field indicates if volume is an SMBC master. This parameter is only supported if volume is part of SMBC relationship Attributes: non-creatable, non-modifiable
is-unrecoverable		boolean optional	Whether or not there is known inconsistency in the associated file system and it is not recoverable. This field is valid only for flexible volumes.

			By default, this field is false. Attributes: non-creatable, non-modifiable
is-volume-in-cutover		boolean optional	Is the given volume move operation in cutover phase? If true, this volume is moving from one aggregate to another aggregate in the cluster and is in cutover phase. The aggregates can be on different nodes of the cluster. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
is-vserver-root		boolean optional	If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. This field is not set on FlexGroups. When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. Attributes: optional-for-create, non-modifiable
protocol-access-fenced-by		string optional	This field indicates the owner of the protocol access fence when the volume's protocol access is fenced. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access. Possible values: • 'none', • 'coordinated_snaprestore', • 'coordinated_redirection', • 'snapmirror_synchronous', • 'vserver_migrate' Attributes: non-creatable, non-modifiable
smbc-consensus		string optional	This field indicates consensus state of SMBC volume. Possible values: • 'Awaiting-consensus', • 'Consensus', • 'No-consensus' Attributes: non-creatable, non-modifiable
state		string optional	Volume State. Possible values: • 'online', • 'restricted', • 'offline', • 'mixed' If a FlexGroup or Infinite Volume's constituents are not all in the same state, it will return 'mixed'. The 'mixed' state is read-only. Attributes: optional-for-create, modifiable
status		string[] optional	Volume status. Attributes: non-creatable, non-modifiable

Element definition: **volume-transition-attributes**

[top]

Information about the transition attributes of a volume.

Name	Range	Type	Description
is-cft-precommit		boolean optional	Indicates whether the volume is in the pre-commit phase of Copy-Free Transition. This field is not set on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable
is-copied-for-transition		boolean optional	Indicates whether the volume has been copied for copy based transition. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
is-transitioned		boolean optional	Indicates whether the volume has gone through a transition operation at some point in the past. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable
transition-behavior		string optional	For an in progress transition, indicate what the behavior is. This field is not set on FlexGroups. Possible values: • 'none' ... No transition is in progress, • 'data-move' ... Transition will follow volume move behavior. For example, Lun serial number is preserved, • 'data-protection' ... Transition will follow a data protection relationship behavior. Attributes: non-creatable, non-modifiable

Element definition: **volume-vm-align-attributes**

[top]

Information related to the Virtual Machine alignment settings on the volume.

Name	Range	Type	Description
vm-align-sector	**[1..7]**	integer optional	The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. This field is not set on FlexGroups. Attributes: optional-for-create, non-modifiable
vm-align-suffix		string optional	The Virtual Machine alignment suffix. The suffix such as '.xyz'. is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this. This field is not set on FlexGroups. Attributes: optional-for-create, non-modifiable

Element definition: **volume-vserver-dr-protection-attributes**

[top]

Information related to volume protection type in a Vserver DR setup.

Name	Range	Type	Description
vserver-dr-protection		string optional	Indicates whether the volume will be replicated to the destination in a Vserver DR setup. Possible values: • 'protected' ... Volume will be replicated to the destination, • 'unprotected' ... Volume will not be replicated to the destination. Attributes: optional-for-create, modifiable Possible values: • "protected" - Volume is protected by Vserver DR, • "unprotected" - Volume is not protected by Vserver DR

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **cache-policy**

[top]

Cache Policy Name

[none]

Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,

- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **node-name**

[top]

The node's name

[none]

Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

Name	Range	Type	Description
checksum-style		string	Checksum style. The possible values: • "advanced_zoned" - advanced_zoned checksum (azcs), • "block" - block, • "mixed" - mixed, • "none" - none, • "unknown" - unknown, • "wafl" - wafl, • "zoned" - zoned (this value is no longer supported).
cluster-disk-names		disk-info[] optional	List of disks in this plex by their spatial names, if available.
disks		disk-info[]	List of disks in this plex.
is-cache-tier		boolean	"true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space).
is-recomputing-parity		boolean	"true" if the RAID group is currently recomputing parity.
is-reconstructing		boolean	"true" if the RAID group is currently reconstructing.
is-scrub-suspended		boolean optional	Suspended state of the scrub on that RAID group.
last-scrub-timestamp		integer optional	Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1].
name		string	RAID group name.

recomputing-parity-percentage		integer optional	The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100]
reconstruction-percentage		integer optional	If reconstruction is going on, the the completion percentage. Range : [0-100]
scrub-percentage-complete		integer optional	Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100].

Element definition: **repos-constituent-role**

[top]

Constituent Roles Possible values:

- "none" ,
- "namespace" ,
- "data" ,
- "root" ,
- "ns_mirror" ,
- "member"

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **space-slo-enum**

[top]

none|thick|semi-thick Possible values:

- "none" ,
- "thick" ,

- "semi_thick"

[none]

Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volstyle** [top]

flex Possible values:

- "flex" - Flexible Volume,
- "infinitevol" - Infinite Volume

[none]

Element definition: **volume-64bit-upgrade-check-info** [top]

Information returned when upgrade-64bit-mode in aggr-add is "check". Upgrade check results such as "used-space", "available-space", "capacity", and "grow-space" are only updated after the space estimate is completed successfully.

Name	Range	Type	Description
age		integer optional	The age in seconds of the space check results. Range: [0..2^64-1].
available-space		integer optional	Amount of space (in bytes) that would be available in the volume after it is upgraded to 64-bit. Range: [0..2^64-1].
capacity		integer optional	Percentage of space that would be used in the volume after it is upgraded to 64-bit. Range: [0..100].
grow-space		integer optional	Amount of space (in bytes) the volume must be grown by before successfully upgrading its current data. Range: [0..2^64-1]
last-errno		integer optional	The error code of the last attempt to check for space usage on the specific volume. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Upgrade check results may be out of date if last-errno is not 0.
used-space		integer optional	Amount of space (in bytes) that would be used in the volume after it is upgraded to 64-bit. Range: [0..2^64-1].

Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

Name	Range	Type	Description
on-access-policy		string optional	{Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'. If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces. Attributes: optional-for-create, modifiable

Element definition: **volume-clone-parent-attributes**

[top]

Information describing the parentage of a clone volume.

Name	Range	Type	Description
dsid	**[0..2^64-1]**	integer optional	The clone parent volume's Data Set ID. Attributes: non-creatable, non-modifiable
msid	**[0..2^64-1]**	integer optional	The clone's parent volume's Mirror Set ID. Attributes: non-creatable, non-modifiable
name		volume-name optional	The clone parent volume's human-readable name. Attributes: non-creatable, non-modifiable
snapshot-id	**[0..2^64-1]**	integer optional	The clone parent volume's base snapshot identifier. The only legal value for a snapshot identifier is its Data Set ID. Attributes: non-creatable, non-modifiable
snapshot-name		string optional	The clone parent volume's base snapshot name. Attributes: non-creatable, non-modifiable
uuid		uuid optional	The clone parent volume's UUID. Attributes: non-creatable, non-modifiable
vserver-name		vserver-name optional	The Vserver under which the clone parent volume resides. Attributes: non-creatable, non-modifiable

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **volume-security-unix-attributes**

[top]

The Unix-oriented security settings associated with this volume.

Name	Range	Type	Description
group-id	**[0..2^32-1]**	integer optional	The UNIX group ID for the volume. The default value is 0 ('root'). Attributes: optional-for-create, modifiable
permissions		string optional	Unix permission bits in octal string format. It's similar to Unix style permission bits: In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users. In Data ONTAP Cluster-Mode, for security style 'mixed' or 'unix', the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style 'ntfs', the default setting of '0000' gives no permissions to owner, group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. Attributes: optional-for-create, modifiable
user-id	**[0..2^32-1]**	integer optional	The UNIX user ID for the volume. The default value is 0 ('root'). Attributes: optional-for-create, modifiable

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **disk-info**

[top]

Information for each disk in the plex.

Name	Range	Type	Description
name		string	Name of a member disk.
vbn-end	**[0..2^64-1].**	integer optional	VBN end value of a disk.
vbn-start	**[0..2^64-1].**	integer optional	VBN start value of a disk.

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

APIs in Category: **vscan**

vscan-active-scanner-pool-get-iter
vscan-connection-extended-stats-get-iter
vscan-connection-status-all-get-iter
vscan-events-get-iter
vscan-on-access-policy-create
vscan-on-access-policy-delete
vscan-on-access-policy-get-iter
vscan-on-access-policy-modify
vscan-on-access-policy-status-modify
vscan-on-demand-report-delete
vscan-on-demand-report-get-iter
vscan-on-demand-task-create
vscan-on-demand-task-delete
vscan-on-demand-task-get-iter
vscan-on-demand-task-modify
vscan-on-demand-task-run
vscan-reset
vscan-resolve-hostnames
vscan-scanner-pool-apply-policy
vscan-scanner-pool-create
vscan-scanner-pool-delete
vscan-scanner-pool-get-iter
vscan-scanner-pool-modify
vscan-status-get-iter
vscan-status-modify

This set of APIs allow configuring and managing Vscan on Data ONTAP Cluster-Mode environment. This includes the APIs to retrieve the connection-status and other diagnostic information of active Vscan servers.

vscan-active-scanner-pool-get-iter

[top]

Returns active scanner pool configuration of a vserver.

Input Name	Range	Type	Description
desired-attributes		vscan-active-scanner-pool-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-active-scanner-pool-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-active-scanner-pool object. All vscan-active-scanner-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-active-scanner-pool-info[] optional	The list of attributes of vscan-active-scanner-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-active-scanner-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

vscan-connection-extended-stats-get-iter

[top]

Returns connection status.

Input Name	Range	Type	Description
desired-attributes		vscan-connection-extended-stats-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-connection-extended-stats-info	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-extended-stats object. All vscan-connection-extended-stats

		optional	objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-connection-extended-stats-info[] optional	The list of attributes of vscan-connection-extended-stats objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-connection-extended-stats objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ENODENOTFOUND	
E_SCANNER_POOL_NOT_FOUND	

vscan-connection-status-all-get-iter

[top]

Returns connection status.

Input Name	Range	Type	Description
desired-attributes		vscan-connection-status-all-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-connection-status-all-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-status-all object. All vscan-connection-status-all objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-connection-status-all-info[] optional	The list of attributes of vscan-connection-status-all objects.

next-tag		string optional	Tag for the next call. Not present when there are no more vscan-connection-status-all objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ENODENOTFOUND	
E_SCANNER_POOL_NOT_FOUND	

vscan-events-get-iter

[top]

Returns content of the vscan event log, which is generated by the cluster to capture important events.

Input Name	Range	Type	Description
desired-attributes		vscan-events-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-events-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-events object. All vscan-events objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-events-info[] optional	The list of attributes of vscan-events objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-events objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
ENODENOTFOUND	

[top]

vscan-on-access-policy-create

Create an On-Access policy.

Input Name	Range	Type	Description
file-ext-to-exclude		file-extension[] optional	File extensions for which On-Access scanning must not be performed.
file-ext-to-include		file-extension[] optional	File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning.
filters		vscan-on-access-policy-ui-filter[] optional	A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values: • "scan_ro_volume" - Enable scans for read-only volume, • "scan_execute_access" - Scan only files opened with execute-access (CIFS only)
is-scan-mandatory		boolean optional	Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy.
paths-to-exclude		file-path[] optional	File paths for which On-Access scanning must not be performed.
policy-name		policy-name	Name of the policy.
protocol		vscan-protocol	File-Access protocol to monitor for On-Access scanning. Possible values: • "cifs" - CIFS Protocol
return-record		boolean optional	If set to true, returns the vscan-on-access-policy on successful creation. Default: false
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.

Output Name	Range	Type	Description
result		vscan-on-access-policy-info optional	The vscan-on-access-policy created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_OA_POLICY_EXISTS	
E_OA_POLICY_CANNOT_CREATE_MAX_LIMIT	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-on-access-policy-delete

[top]

Delete an On-Access policy.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	
EAPIPRIVILEGE	
E_OA_POLICY_CANNOT_DELETE	
ERESOURCEINUSE	

vscan-on-access-policy-get-iter

[top]

Returns list of On-Access policies.

Input Name	Range	Type	Description
desired-attributes		vscan-on-access-policy-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-on-access-policy-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-access-policy object. All vscan-on-access-policy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-on-access-policy-info[] optional	The list of attributes of vscan-on-access-policy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-on-access-policy objects to return.

num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	

vscan-on-access-policy-modify

[top]

Modify an On-Access policy.

Input Name	Range	Type	Description
file-ext-to-exclude		file-extension[] optional	File extensions for which On-Access scanning must not be performed.
file-ext-to-include		file-extension[] optional	File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning.
filters		vscan-on-access-policy-ui-filter[] optional	A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values: • "scan_ro_volume" - Enable scans for read-only volume, • "scan_execute_access" - Scan only files opened with execute-access (CIFS only)
is-scan-mandatory		boolean optional	Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy.
paths-to-exclude		file-path[] optional	File paths for which On-Access scanning must not be performed.
policy-name		policy-name	Name of the policy.
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	
EAPIPRIVILEGE	

[top]

vscan-on-access-policy-status-modify

Modify On-Access policy status.

Input Name	Range	Type	Description
policy-name		policy-name	Name of the policy.
policy-status		boolean	Policy Status

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_OA_POLICY_NOT_FOUND	
ERESOURCEINUSE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-on-demand-report-delete

[top]

Delete an On-Demand report.

Input Name	Range	Type	Description
delete-report-file		true-false optional	Specifies if report file also need to be deleted. Default is false.
report-file		string	Path of the report file from root of the Vserver.
task-name		string	Name of the task.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	
ERESOURCEINUSE	

vscan-on-demand-report-get-iter

[top]

Returns list of On-Demand Task Report.

Input Name	Range	Type	Description
desired-attributes		vscan-on-demand-report-info	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

		optional	
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-on-demand-report-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-report object. All vscan-on-demand-report objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-on-demand-report-info[] optional	The list of attributes of vscan-on-demand-report objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-on-demand-report objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

vscan-on-demand-task-create

[top]

Create an On-Demand Task.

Input Name	Range	Type	Description
cross-junction		true-false optional	Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true.
directory-recursion		true-false optional	Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true.
file-ext-to-exclude		file-extension[] optional	File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
file-ext-to-include		file-extension[] optional	File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task.

paths-to-exclude		string[] optional	File-paths for which scanning must not be performed.
report-directory		string	Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports.
report-expiry-time		time-interval optional	Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0
report-log-level		vscan-od-log-level optional	Log level for the On-Demand report. Default is error. Possible values: • "verbose" - Report file will contain verbose logs for each file found in the scan-path., • "info" - Report file will contain info and error logs., • "error" - Report file will contain only error logs.
request-timeout		time-interval optional	Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout.
return-record		boolean optional	If set to true, returns the vscan-on-demand-task on successful creation. Default: false
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.
scan-paths		string[]	List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files.
scan-priority		vscan-scan-priority optional	Priority of the On-Demand scan requests generated by this task. Default is low. Possible values: • "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue., • "normal" - The scan request will be processed normally.
schedule		string optional	Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task.
task-name		string	Name of the task.

Output Name	Range	Type	Description
result		vscan-on-demand-task-info optional	The vscan-on-demand-task created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_OD_TASK_CANNOT_CREATE_MAX_LIMIT	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-on-demand-task-delete

[top]

Delete an On-Demand Task.

Input Name	Range	Type	Description
task-name		string	Name of the task.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	
ERESOURCEINUSE	

vscan-on-demand-task-get-iter

[top]

Returns list of On-Demand Task.

Input Name	Range	Type	Description
desired-attributes		vscan-on-demand-task-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-on-demand-task-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-task object. All vscan-on-demand-task objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-on-demand-task-info[] optional	The list of attributes of vscan-on-demand-task objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-on-demand-task objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	

EVSERVERNOTFOUND	

vscan-on-demand-task-modify

[top]

Modify an On-Demand Task.

Input Name	Range	Type	Description
cross-junction		true-false optional	Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true.
directory-recursion		true-false optional	Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true.
file-ext-to-exclude		file-extension[] optional	File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
file-ext-to-include		file-extension[] optional	File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning.
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task.
paths-to-exclude		string[] optional	File-paths for which scanning must not be performed.
report-directory		string optional	Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports.
report-expiry-time		time-interval optional	Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0
report-log-level		vscan-od-log-level optional	Log level for the On-Demand report. Default is error. Possible values: • "verbose" - Report file will contain verbose logs for each file found in the scan-path., • "info" - Report file will contain info and error logs., • "error" - Report file will contain only error logs.
request-timeout		time-interval optional	Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout.
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true.
scan-paths		string[] optional	List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files.
scan-priority		vscan-scan-priority optional	Priority of the On-Demand scan requests generated by this task. Default is low. Possible values: • "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue., • "normal" - The scan request will be processed normally.

schedule		string optional	Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task.
task-name		string	Name of the task.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	

vscan-on-demand-task-run

[top]

Run an On-Demand task

Input Name	Range	Type	Description
task-name		string	Task Name

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
EAPIPRIVILEGE	
ERESOURCEINUSE	

vscan-reset

[top]

Discard cached information of files that have been successfully scanned.

Errno	Description
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-resolve-hostnames

[top]

Resolve the hostnames configured in the scanner pool.

Input Name	Range	Type	Description
scanner-pool		scanner-pool	Name of the virus scanner pool.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-scanner-pool-apply-policy

[top]

Apply scanner-policy to a scanner pool.

Input Name	Range	Type	Description
cluster		cluster-name optional	Cluster on Which Policy Is Applied
scanner-policy		scanner-policy	Scanner Policy
scanner-pool		scanner-pool	Name of the virus scanner pool.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	
E_ONLY_SCANNER_POOL_ACTIVE	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-scanner-pool-create

[top]

Create a virus scanner pool, which is used for validating and managing connections between clustered Data ONTAP and Vscan servers.

Input Name	Range	Type	Description
hostnames		string[]	List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP.
max-session-setup-retries	[0..2^32-1]	integer optional	Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool.
privileged-users		privileged-user[]	List of privileged users.
			Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the

request-timeout	**[0..2^32-1]**	integer optional	node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool.
return-record		boolean optional	If set to true, returns the vscan-scanner-pool on successful creation. Default: false
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool.
scanner-pool		scanner-pool	Name of the virus scanner pool.
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.

Output Name	Range	Type	Description
result		vscan-scanner-pool-info optional	The vscan-scanner-pool created (keys or the entire object if requested)

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
E_SCANNER_POOL_EXISTS	
E_SCANNER_POOL_CANNOT_CREATE_MAX_LIMIT	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

vscan-scanner-pool-delete

[top]

Delete a scanner pool.

Input Name	Range	Type	Description
scanner-pool		scanner-pool	Name of the virus scanner pool.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	
EAPIPRIVILEGE	

E_ONLY_SCANNER_POOL_ACTIVE	
ERESOURCEINUSE	

vscan-scanner-pool-get-iter

[top]

Returns list of scanner pools. Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners).

Input Name	Range	Type	Description
desired-attributes		vscan-scanner-pool-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-scanner-pool-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-scanner-pool object. All vscan-scanner-pool objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-scanner-pool-info[] optional	The list of attributes of vscan-scanner-pool objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-scanner-pool objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	

vscan-scanner-pool-modify

[top]

Modify a scanner pool.

Input Name	Range	Type	Description
hostnames		string[] optional	List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP.
max-			

session-setup-retries	**[0..2^32-1]**	integer optional	Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool.
privileged-users		privileged-user[] optional	List of privileged users.
request-timeout	**[0..2^32-1]**	integer optional	Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool.
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool.
scanner-pool		scanner-pool	Name of the virus scanner pool.
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	
E_SCANNER_POOL_NOT_FOUND	
EAPIPRIVILEGE	

vscan-status-get-iter

[top]

Returns Vscan status information.

Input Name	Range	Type	Description
desired-attributes		vscan-status-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vscan-status-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-status object. All vscan-status objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vscan-status-info[] optional	The list of attributes of vscan-status objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vscan-status objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EVSERVERNOTFOUND	

vscan-status-modify

[top]

Modify Vscan status.

Input Name	Range	Type	Description
is-vscan-enabled		boolean	Vscan status. When true, Vscan feature is enabled for the Vserver.

Errno	Description
EINVALIDINPUTERROR	
EINTERNALERROR	
EOPNOTSUPPORTED	
E_VSERVER_TYPE_NOT_SUPPORTED	
EVSERVERNOTFOUND	
ECIFSERVERNOTFOUND	
E_NO_SCANNER_POOL_ACTIVE	
E_VSCAN_CAPABILITY_NOT_ENABLED	
E_VSCAN_JOB_QUEUE_FAILED	
E_VSCAN_JOB_DELETE_FAILED	
E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE	

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **file-extension** [top]

File extension

[none]

Element definition: **file-path** [top]

File path

[none]

Element definition: **policy-name** [top]

Policy name

[none]

Element definition: **privileged-user** [top]

Privileged user

[none]

Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **true-false**

[top]

True/False

[none]

Element definition: **vscan-active-scanner-pool-info**

[top]

Vscan active scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
max-session-setup-retries	**[0..2^32-1]**	integer optional	Maximum number of consecutive session-setup attempts. This is set to the max of max-session-setup-retries of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
privileged-users		privileged-user[] optional	List of privileged users for a vserver. Vscan server is given privileged access to the clustered Data ONTAP only if it uses one of these users. Attributes: non-creatable, non-modifiable
request-timeout	**[0..2^32-1]**	integer optional	Total request-service time-limit in seconds. This is set to the max of the request-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. This is set to the max of the scan-queue-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
scanner-		scanner-	List of active scanner pools on a vserver. Attributes: non-creatable,

pools		pool[] optional	non-modifiable
servers		ip-address[] optional	List of allowed Vscan servers IP for a vserver. A Vscan server is allowed to connect to the clustered Data ONTAP only if its IP is part of this list. Attributes: non-creatable, non-modifiable
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. This is set to the max of the session-setup-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. This is set to the max of the session-teardown-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-connection-extended-stats-info**

[top]

Vscan connection extended statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
extended-stats		string[] optional	Vscanner's extended statistics. Attributes: non-creatable, non-modifiable
node		node-name optional	Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
server		ip-address optional	IP of the Vscan server. Attributes: key, non-creatable, non-modifiable
server-status		vscan-server-status optional	Status of the connection. Attributes: non-creatable, non-modifiable Possible values: • "disconnected" - Disconnected, • "disconnecting" - Disconnecting, • "connecting" - Connecting, • "connected" - Connected
server-type		vscan-scanner-type optional	Server type. Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary, • "backup" - Backup
vendor		string optional	Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable
version		string optional	Version of virus-scanner. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-connection-status-all-info**

[top]

Vscan connection status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
connected-since		datetime optional	Time when Vscan server was connected. Attributes: non-creatable, non-modifiable
disconnect-reason		vscan-disconnect-reason optional	Reason for disconnection. Attributes: non-creatable, non-modifiable Possible values: • "na" - Not applicable, • "vscan_disabled" - Vscan disabled on the vserver, • "no_data_lif" - Vserver does not have data lif on the node, • "session_uninitialized" - Session not initialized, • "remote_closed" - Closure from Server, • "invalid_protocol_msg" - Invalid protocol-message received, • "invalid_session_id" - Invalid session-id received, • "inactive_connection" - No activity on connection, • "invalid_user" - Connection request by invalid user, • "server_removed" - Server removed from the active scanner-pool
disconnected-since		datetime optional	Time when Vscan server was disconnected. Attributes: non-creatable, non-modifiable
lif		ip-address optional	IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable
node		node-name optional	Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
privileged-user		string optional	Privileged user, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable
server		ip-address optional	IP of the Vscan server. Attributes: key, non-creatable, non-modifiable
server-status		vscan-server-status optional	Status of the connection. Attributes: non-creatable, non-modifiable Possible values: • "disconnected" - Disconnected, • "disconnecting" - Disconnecting, • "connecting" - Connecting, • "connected" - Connected
server-type		vscan-scanner-type	Server type. Attributes: non-creatable, non-modifiable Possible values: • "primary" - Primary,

		optional	• "backup" - Backup
vendor		string optional	Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable
version		string optional	Version of virus-scanner. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-events-info**

[top]

Vscan events information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
consecutive-occurrence-count	**[0..2^32-1]**	integer optional	Consecutive occurrence count of the same event. Attributes: non-creatable, non-modifiable
disconnect-reason		vscan-disconnect-reason optional	Reason for disconnection. This field is applicable only for the scanner-disconnection events. Attributes: non-creatable, non-modifiable Possible values: • "na" - Not applicable, • "vscan_disabled" - Vscan disabled on the vserver, • "no_data_lif" - Vserver does not have data lif on the node, • "session_uninitialized" - Session not initialized, • "remote_closed" - Closure from Server, • "invalid_protocol_msg" - Invalid protocol-message received, • "invalid_session_id" - Invalid session-id received, • "inactive_connection" - No activity on connection, • "invalid_user" - Connection request by invalid user, • "server_removed" - Server removed from the active scanner-pool
event-time		datetime optional	Event log time. Attributes: key, non-creatable, non-modifiable
event-type		vscan-event-type optional	Event type. Attributes: non-creatable, non-modifiable Possible values: • "scanner_connected" - Scanner connected, • "scanner_disconnected" - Scanner disconnected, • "scanner_updated" - Scanner updated, • "scan_internal_error" - Internal error, • "scan_failed" - Scan failed, • "scan_timedout" - Scan timed out, • "file_infected" - File is infected,

			"file_renamed" - File is renamed after found infected, • "file_quarantined" - File is quarantined after found infected, • "file_deleted" - File is deleted after found infected, • "scanner_busy" - Scanner is busy
file-path		string optional	Path of the file which is being scanned. The path gives the client view of the file being scanned. This field is applicable only for the scanning related events. Attributes: non-creatable, non-modifiable
lif		ip-address optional	IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. It could be either IPV4 or IPV6 as configured. Attributes: non-creatable, non-modifiable
node		node-name optional	Node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable
scan-engine-status	**[0..2^64-1]**	integer optional	Status code returned by scan-engine. This field is applicable only if scan-engine is capable of responding with extended status. Attributes: non-creatable, non-modifiable
server		ip-address optional	IP of the Vscan server. It could be either IPV4 or IPV6 as configured in the scanner pool. Attributes: non-creatable, non-modifiable
vendor		string optional	Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable
version		string optional	Version of virus-scanner. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

Element definition: **vscan-on-access-policy-info**

[top]

Vscan On-Access policy information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-owner		vscan-config-owner optional	Owner of the policy. Attributes: non-creatable, non-modifiable Possible values: • "vserver" - Vserver Admin, • "cluster" - Cluter Admin
file-ext-to-exclude		file-extension[] optional	File extensions for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable
file-ext-to-include		file-extension[] optional	File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. Attributes: optional-for-create, modifiable
filters		vscan-on-access-policy-ui-filter[] optional	A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Attributes: optional-for-create, modifiable Possible values: • "scan_ro_volume" - Enable scans for read-only volume, • "scan_execute_access" - Scan only files opened with execute-access (CIFS only)
is-policy-enabled		boolean optional	Policy status. Attributes: non-creatable, non-modifiable
is-scan-mandatory		boolean optional	Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable
paths-to-exclude		file-path[] optional	File paths for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable
policy-name		policy-name optional	Name of the policy. Attributes: key, required-for-create, non-modifiable
protocol		vscan-protocol optional	File-Access protocol to monitor for On-Access scanning. Attributes: required-for-create, non-modifiable Possible values: • "cifs" - CIFS Protocol
scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-on-access-policy-ui-filter**

[top]

Filters to define the scope of On-Access scanning more precisely. Possible values:

- "scan_ro_volume" - Enable scans for read-only volume,
- "scan_execute_access" - Scan only files opened with execute-access (CIFS only)

[none]

Element definition: **vscan-on-demand-report-info**

[top]

Vscan On-Demand Task Report information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
already-scanned-files	**[0..2^64-1]**	integer optional	Total number of files which were already scanned by a valid virus-scanner. Attributes: non-creatable, non-modifiable
attempted-scans	**[0..2^64-1]**	integer optional	Total number of attempted scans. Attributes: non-creatable, non-modifiable
failed-scans	**[0..2^64-1]**	integer optional	Total number of failed scans. Attributes: non-creatable, non-modifiable
files-cleaned	**[0..2^64-1]**	integer optional	Total number of files that were marked clean by the virus-scanner. Attributes: non-creatable, non-modifiable
files-infected	**[0..2^64-1]**	integer optional	Total number of files that were marked infected by the virus-scanner. Attributes: non-creatable, non-modifiable
internal-error	**[0..2^64-1]**	integer optional	Total number of internal error occured while running the task. Attributes: non-creatable, non-modifiable
job-duration		time-interval optional	Time taken by the job to complete the on-demand task. Attributes: non-creatable, non-modifiable
job-end-time		datetime optional	On-demand task end time. Attributes: non-creatable, non-modifiable
job-id	**[-2^63..2^63-1]**	integer optional	ID of the on-demand scan job. Attributes: non-creatable, non-modifiable
job-start-time		datetime optional	On-demand task start time. Attributes: non-creatable, non-modifiable
report-file		string optional	Path of the report file from root of the Vserver. Attributes: key, non-creatable, non-modifiable
scan-retries	**[0..2^64-1]**	integer optional	Total number of scans that were retried because of internal error. Attributes: non-creatable, non-modifiable
skipped-scans	**[0..2^64-1]**	integer optional	Total number of files which were not scanned because of the configured scope of scanning. Attributes: non-creatable, non-modifiable
successful-scans	**[0..2^64-1]**	integer optional	Total number of files which were successfully scanned. Attributes: non-creatable, non-modifiable
task-name		string optional	Name of the task. Attributes: key, non-creatable, non-modifiable
timedout-scans	**[0..2^64-1]**	integer optional	Total number of scans that were timed out. Attributes: non-creatable, non-modifiable
vserver		string	Vserver Attributes: key, non-creatable, non-modifiable

		optional	

Element definition: **vscan-on-demand-task-info**

[top]

Vscan On-Demand Task information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
cross-junction		true-false optional	Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. Attributes: optional-for-create, modifiable
directory-recursion		true-false optional	Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. Attributes: optional-for-create, modifiable
file-ext-to-exclude		file-extension[] optional	File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable
file-ext-to-include		file-extension[] optional	File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable
max-file-size		size optional	Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. Attributes: optional-for-create, modifiable
paths-to-exclude		string[] optional	File-paths for which scanning must not be performed. Attributes: optional-for-create, modifiable
report-directory		string optional	Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. Attributes: required-for-create, modifiable
report-expiry-time		time-interval optional	Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 Attributes: optional-for-create, modifiable
report-log-level		vscan-od-log-level optional	Log level for the On-Demand report. Default is error. Attributes: optional-for-create, modifiable Possible values: • "verbose" - Report file will contain verbose logs for each file found in the scan-path., • "info" - Report file will contain info and error logs., • "error" - Report file will contain only error logs.
request-timeout		time-interval optional	Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. Attributes: optional-for-create, modifiable

scan-files-with-no-ext		true-false optional	Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable
scan-paths		string[] optional	List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. Attributes: required-for-create, modifiable
scan-priority		vscan-scan-priority optional	Priority of the On-Demand scan requests generated by this task. Default is low. Attributes: optional-for-create, modifiable Possible values: • "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue., • "normal" - The scan request will be processed normally.
schedule		string optional	Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. Attributes: optional-for-create, modifiable
task-name		string optional	Name of the task. Attributes: key, required-for-create, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-protocol**

[top]

CIFS Possible values:

- "cifs" - CIFS Protocol

[none]

Element definition: **vscan-scan-priority**

[top]

Priority of the scan request. Possible values:

- "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,
- "normal" - The scan request will be processed normally.

[none]

Element definition: **vscan-scanner-pool-info**

[top]

Vscan scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
admin-owner		vscan-config-owner optional	Owner of the scanner pool. Attributes: non-creatable, non-modifiable Possible values: • "vserver" - Vserver Admin, • "cluster" - Cluter Admin
cluster		cluster-name optional	Name of the cluster on which you want to apply the scanner policy of a scanner pool. Default value is taken as local cluster. This parameter does not have any significance if the cluster is not in a DR relationship. Attributes: non-creatable, non-modifiable
hostnames		string[] optional	List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: required-for-create, modifiable
is-currently-active		boolean optional	Current status of a scanner pool. Attributes: non-creatable, non-modifiable
max-session-setup-retries	**[0..2^32-1]**	integer optional	Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
privileged-users		privileged-user[] optional	List of privileged users. Attributes: required-for-create, modifiable
request-timeout	**[0..2^32-1]**	integer optional	Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
scan-queue-timeout	**[0..2^32-1]**	integer optional	Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
scanner-policy		scanner-policy optional	Scanner policy. Currently only system policies are supported. Possible values: • 'primary' - Makes it active always, • 'secondary' - Makes it active only when no primary Vscan server is connected, • 'idle' - Makes it inactive always Attributes: non-creatable, non-modifiable
scanner-pool		scanner-pool optional	Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners). Attributes: key, required-for-create, non-modifiable

servers		ip-address[] optional	List of IP addresses of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: non-creatable, non-modifiable
session-setup-timeout	**[0..2^32-1]**	integer optional	Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
session-teardown-timeout	**[0..2^32-1]**	integer optional	Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **vscan-status-info**

[top]

Vscan status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-vscan-enabled		boolean optional	Vscan status. When true, Vscan feature is enabled for the Vserver. Attributes: non-creatable, non-modifiable
vserver		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

Element definition: **file-extension** [top]

File extension

[none]

Element definition: **file-path** [top]

File path

[none]

Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

Element definition: **node-name** [top]

The node's name

[none]

Element definition: **policy-name** [top]

Policy name

[none]

Element definition: **privileged-user** [top]

Privileged user

[none]

Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **time-interval** [top]

Time interval in seconds Range : [0..2^32-1].

[none]

Element definition: **true-false** [top]

True/False

[none]

Element definition: **vscan-config-owner** [top]

Configuration owner Possible values:

- "vserver" - Vserver Admin,
- "cluster" - Cluter Admin

[none]

Element definition: **vscan-disconnect-reason**

[top]

reason Possible values:

- "na" - Not applicable,
- "vscan_disabled" - Vscan disabled on the vserver,
- "no_data_lif" - Vserver does not have data lif on the node,
- "session_uninitialized" - Session not initialized,
- "remote_closed" - Closure from Server,
- "invalid_protocol_msg" - Invalid protocol-message received,
- "invalid_session_id" - Invalid session-id received,
- "inactive_connection" - No activity on connection,
- "invalid_user" - Connection request by invalid user,
- "server_removed" - Server removed from the active scanner-pool

[none]

Element definition: **vscan-event-type**

[top]

Type of the event generated by the cluster. Possible values:

- "scanner_connected" - Scanner connected,
- "scanner_disconnected" - Scanner disconnected,
- "scanner_updated" - Scanner updated,
- "scan_internal_error" - Internal error,
- "scan_failed" - Scan failed,
- "scan_timedout" - Scan timed out,
- "file_infected" - File is infected,
- "file_renamed" - File is renamed after found infected,
- "file_quarantined" - File is quarantined after found infected,
- "file_deleted" - File is deleted after found infected,
- "scanner_busy" - Scanner is busy

[none]

Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

Element definition: **vscan-scanner-type**

[top]

Server type Possible values:

- "primary" - Primary,
- "backup" - Backup

[none]

Element definition: **vscan-server-status**

[top]

Status Possible values:

- "disconnected" - Disconnected,
- "disconnecting" - Disconnecting,
- "connecting" - Connecting,
- "connected" - Connected

[none]

APIs in Category: **vserver**

vserver-add-aggregates
vserver-add-protocols
vserver-config-diff-get
vserver-config-diff-get-iter
vserver-create
vserver-create-async
vserver-data-policy-export
vserver-data-policy-import
vserver-data-policy-validation-get-error
vserver-destroy
vserver-destroy-async
vserver-get
vserver-get-iter
vserver-http-proxy-create
vserver-http-proxy-delete
vserver-http-proxy-get
vserver-http-proxy-get-iter
vserver-http-proxy-modify
vserver-login-banner-get
vserver-login-banner-get-iter
vserver-login-banner-modify
vserver-login-banner-modify-iter
vserver-modify
vserver-modify-iter
vserver-motd-get
vserver-motd-get-iter
vserver-motd-modify
vserver-motd-modify-iter
vserver-protect-precheck
vserver-protect-precheck-dp-support
vserver-protect-precheck-network
vserver-protect-precheck-vge-support
vserver-remove-aggregates
vserver-remove-protocols
vserver-rename
vserver-rename-async
vserver-san-purge
vserver-san-purge-verify
vserver-show-aggr-get-iter
vserver-start
vserver-stop
vserver-unlock

vserver-add-aggregates

[top]

Add aggregates to the Vserver

Input Name	Range	Type	Description
aggr-list		aggr-name[]	Specifies a list of aggregates to be added to the Vserver. The root aggregates should not be specified in this list because though the command will return success, volumes cannot be created on root aggregates. In a MetroCluster configuration, this command does not honor the remote cluster's aggregates.
vserver-name		string	Specifies the name of the Vserver for which aggregates are to be added.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-add-protocols

[top]

add protocols to the Vserver

Input Name	Range	Type	Description
protocols		protocol[]	Is the list of protocols to be added to the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'.
vserver-name		string	Specifies the name of the Vserver on which the given set of protocols are allowed.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_CANNOT_DELETE_SYNC_DESTINATION_IN_INITIALIZING_STATE	
E_NVMF_REPL_NOT_SUPPORTED	
E_NVMF_EXCLUSIVE_VSERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two Vservers in DR relationship, including MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part

of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
destination-vserver-name		string	Name of destination Vserver
instance	**[0..2^32-1]**	integer optional	The count of object instance
keys		key-value-pair[]	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1
object		string	The Vserver configuration object compared - for example, volume

Output Name	Range	Type	Description
attributes		config-diff-info	The attributes of the vserver.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

vserver-config-diff-get-iter

[top]

Provides the differences in configuration between Vservers in DR relationship, including MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If Vserver is not specified, the differences for all Vservers in the cluster, which are in DR relationship are returned. This API helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

Input Name	Range	Type	Description
desired-attributes		config-diff-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		config-diff-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned.
tag		string	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag'

		optional	obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		config-diff-info[] optional	The list of attributes of vserver objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EOBJECTNOTFOUND	
EVSERVERNOTFOUND	

vserver-create

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To create Vserver use API vserver-create-async. Create a new Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

Input Name	Range	Type	Description
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days)
anti-ransomware-auto-switch-from-learning-to-enabled		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled
anti-ransomware-auto-switch-minimum-file-count	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension
anti-ransomware-auto-switch-minimum-		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB)

incoming-data			
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage)
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
ipspace		string optional	IPspace name. The default value is 'Default'
			This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do

is-repository-vserver		boolean optional	not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster.
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP.
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values: • "file" , • "ldap"
			Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in

name-server-switch		nsswitch[] optional	Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values: • "nis" , • "file" , • "ldap"
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default
return-record		boolean optional	If set to true, returns the vserver on successful creation. Default: false
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name.
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported.
root-volume-security-style		security-style-enum optional	Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name
			Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this

vserver-subtype		string optional	value are: • default • dp_destination • sync_source • sync_destination If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default.

Output Name	Range	Type	Description
result		vserver-info optional	The vserver created (keys or the entire object if requested)

Errno	Description
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_CREATE_PEERED_VSERVER	
E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS	
EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED	
EIPSPACEDOESNOTEXIST	
EVSERVER_CANNOT_BELONG_TO_IPSPACE	
EVSERVER_NSSWITCH_MANDATORY	
EVSERVER_SYSTEM_VSERVER_EXISTS	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION	
EVSERVER_SUBTYPE_NOT_SUPPORTED	
EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME	
EVSERVER_CREATE_FAIL_AGGR_UNKNOWN	

vserver-create-async

[top]

Create a new Vserver asynchronously. The progress of the operation can be monitored using job-get-iter API. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

Input Name	Range	Type	Description
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days)
anti-ransomware-auto-switch-		boolean	Anti-ransomware Auto-switch from Learning to Enabled

from-learning-to-enabled		optional	
anti-ransomware-auto-switch-minimum-file-count	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB)
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage)
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata,

			randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
ipspace		string optional	IPspace name. The default value is 'Default'
is-repository-vserver		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster.
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP.
			Name Mapping switch configuration details for the Vserver.

name-mapping-switch		nmswitch[] optional	When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values: • "file" , • "ldap"
name-server-switch		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values: • "nis" , • "file" , • "ldap"
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name.
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported.
root-volume-security-style		security-style-enum optional	Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
			Default snapshot policy setting for all volumes of the Vserver.

snapshot-policy		snapshot-policy optional	This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name
vserver-subtype		string optional	Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are: • default • dp_destination • sync_source • sync_destination If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default.

Output Name	Range	Type	Description
result		vserver-info optional	The vserver created (keys or the entire object if requested)
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	The ID of the job that was spawned to create this vserver.
result-status		string optional	The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed.

Errno	Description
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_CREATE_PEERED_VSERVER	
E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS	
EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED	
EIPSPACEDOESNOTEXIST	
EVSERVER_CANNOT_BELONG_TO_IPSPACE	
EVSERVER_NSSWITCH_MANDATORY	
EVSERVER_SYSTEM_VSERVER_EXISTS	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION	

EVSERVER_SUBTYPE_NOT_SUPPORTED	
EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME	

vserver-data-policy-export

[top]

This API is no longer supported as of ONTAP 9.5.0.

Export a data policy for a Vserver with an Infinite Volume. The data policy is exported as a JSON string. For a description of the JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

Output Name	Range	Type	Description
data-policy-expression		string	Data-policy JSON expression. A JSON string, XML escaped and UTF8 encoded.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	

vserver-data-policy-import

[top]

This API is no longer supported as of ONTAP 9.5.0.

Import a data policy for a Vserver with an Infinite Volume. The data policy is imported as a JSON string. For a description of the required JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

Input Name	Range	Type	Description
data-policy-expression		string	Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs).

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EDATAPOLICY_VALIDATION_ERROR	

vserver-data-policy-validation-get-error

[top]

This API is no longer supported as of ONTAP 9.5.0.

Validate without importing a data policy for a Vserver with an Infinite Volume. The data policy needs to be specified as a JSON string. For a description of the required JSON format, please refer to the

Clustered Data ONTAP Infinite Volumes Management Guide.

Input Name	Range	Type	Description
expression		string	Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs).

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVERNOTFOUND	
EDATAPOLICY_VALIDATION_ERROR	

vserver-destroy

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To delete Vserver use API vserver-destroy-async. Destroys the Vserver and its objects. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

Input Name	Range	Type	Description
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EVOLEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_DELETE_PEERED_VSERVER	
EVSERVER_CANT_LOOKUP_CIFS_SERVER	
EVSERVER_REMOVE_CIFS_SERVER_WITH_AD	
EVSERVER_CANT_LOOKUP_AD_ACCOUNT	
EVSERVER_CANT_REMOVE_AD_ACCOUNT	
EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER	

vserver-destroy-async

[top]

Destroys the Vserver and its objects asynchronously. The progress of the operation can be monitored using job-get-iter API. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any

volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

Input Name	Range	Type	Description
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.
result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EOPNOTSUPPORTED	
EVOLEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_DELETE_PEERED_VSERVER	
EVSERVER_CANT_LOOKUP_CIFS_SERVER	
EVSERVER_REMOVE_CIFS_SERVER_WITH_AD	
EVSERVER_CANT_LOOKUP_AD_ACCOUNT	
EVSERVER_CANT_REMOVE_AD_ACCOUNT	
EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER	

vserver-get

[top]

Get the attributes of the Vserver.

Input Name	Range	Type	Description
desired-attributes		vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		vserver-info	The attributes of the vserver.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-get-iter

[top]

Display information about Vservers. Information about Admin Vserver, Node Vserver, and Cluster Vservers is displayed. If the ZAPI is issued to the Cluster LIF with no Vserver specified as input, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

Input Name	Range	Type	Description
desired-attributes		vserver-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-info[] optional	The list of attributes of vserver objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-http-proxy-create

[top]

Create a new HTTP proxy configuration.

Input Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.
is-auth-		boolean	Specifies whether authentication is required for the HTTP proxy. By

enabled		optional	default it is set to false.
password		string optional	Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled.
port	**[1..65535]**	integer	Specifies the port number on which the HTTP proxy service is configured for the server.
server		string	Specifies the HTTP proxy hostname or IP address.
skip-config-validation		boolean optional	Skip the config validation
username		string optional	Specifies the username to authenticate with the HTTP proxy when authentication is enabled.
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter.

Errno	Description
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-http-proxy-delete

[top]

Remove the proxy configuration for the specified Vserver.

Input Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-http-proxy-get

[top]

Get the HTTP proxy configuration of the Vserver.

Input Name	Range	Type	Description
desired-attributes		http-proxy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.

Output Name	Range	Type	Description
attributes		http-proxy	The attributes of the http-proxy.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-http-proxy-get-iter

[top]

Get the HTTP proxy configuration of the cluster.

Input Name	Range	Type	Description
desired-attributes		http-proxy optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		http-proxy optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the http-proxy object. All http-proxy objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		http-proxy[] optional	The list of attributes of http-proxy objects.
next-tag		string optional	Tag for the next call. Not present when there are no more http-proxy objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-http-proxy-modify

[top]

Modify the proxy configuration for the specified Vserver.

Input Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter.
is-auth-		boolean	Specifies whether authentication is required for the HTTP proxy. By

enabled		optional	default it is set to false.
password		string optional	Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled.
port		integer optional	Specifies the port number on which the HTTP proxy service is configured for the server.
server		string optional	Specifies the HTTP proxy hostname or IP address.
skip-config-validation		boolean optional	Skip the config validation
username		string optional	Specifies the username to authenticate with the HTTP proxy when authentication is enabled.
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-login-banner-get

[top]

Return the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default.

Input Name	Range	Type	Description
desired-attributes		vserver-login-banner-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description
attributes		vserver-login-banner-info	The attributes of the vserver-login-banner.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-login-banner-get-iter

[top]

Return the specified login banner. See the description for the non-iter API for details.

Input Name	Range	Type	Description
desired-attributes		vserver-login-banner-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-login-banner-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-login-banner object. All vserver-login-banner objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-login-banner-info[] optional	The list of attributes of vserver-login-banner objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-login-banner objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-login-banner-modify

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

Input Name	Range	Type	Description
message		string optional	The login banner message. Maximum byte length for modify: 2048.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-login-banner-modify-iter

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple vserver-login-banner objects match a given query. If set to true, the API will continue with the next matching vserver-login-banner even when the operation fails for the vserver-login-banner. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-login-banner even when the operation on a previous matching vserver-login-banner fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of vserver-login-banner objects to be operated in this call. Default: 20
message		string optional	The login banner message. Maximum byte length for modify: 2048.
query		vserver-login-banner-info	If operating on a specific vserver-login-banner, this input element must specify all keys. If operating on vserver-login-banner objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver-login-banner objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-login-banner objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver-login-banner objects (just keys) that were successfully operated on. If set to false, the list of vserver-login-banner objects operated on will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		vserver-login-banner-modify-iter-info[] optional	Information about vserver-login-banner objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver-login-banner objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of vserver-login-banner objects that matched the query, but were not operated on due some error.

num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver-login-banner objects that matched the query and were successfully processed.
success-list		vserver-login-banner-modify-iter-info[] optional	The vserver-login-banner objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-modify

[top]

Modify the attributes of vserver object.

Input Name	Range	Type	Description
aggr-list		aggr-name[] optional	List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list.
allowed-protocols		protocol[] optional	Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days)
anti-ransomware-auto-switch-from-		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled

learning-to-enabled			
anti-ransomware-auto-switch-minimum-file-count	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB)
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage)
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.

			• all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto.
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
disallowed-protocols		protocol[] optional	Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP.

max-volumes		string optional	Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers.
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values: • "file" , • "ldap"
name-server-switch		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values: • "nis" , • "file" , • "ldap"
qos-policy-group		string optional	The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume.
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default
			State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a

state		vsadminstate optional	Vserver Possible values: • "running" , • "stopped" , • "starting" , • "stopping" , • "initializing" , • "deleting"
volume-delete-retention-hours	**[0..2^32-1]**	integer optional	The number of hours that a deleted volume should be retained before the delete is completed
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	
E_QOS_NO_SUCH_PG	
E_QOS_OBJECT_OVERLAP_ERROR	
E_QOS_TOO_MANY_USER_WIDS	
E_QOS_VSERVERIZATION_VIOLATION_FOR_VS	

vserver-modify-iter

[top]

Modify the attributes of vserver or a group of vserver objects.

Input Name	Range	Type	Description
attributes		vserver-info	Specify at least one modifiable element. Do not specify any other element.
continue-on-failure		boolean optional	This input element is useful when multiple vserver objects match a given query. If set to true, the API will continue modifying the next matching vserver even when modification of a previous vserver fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching vserver even when the modification of a previous matching vserver fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of objects to be modified in this call. Default: 20

query		vserver-info	If modifying a specific vserver, this input element must specify all keys. If modifying vserver objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver objects (just keys) that were not modified due to some error. If set to false, the list of vserver objects not modified will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver objects (just keys) that were successfully updated. If set to false, the list of vserver objects modified will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
failure-list		vserver-modify-iter-info[] optional	Information about vserver objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver objects to be modified.
num-failed	**[0..2^32-1]**	integer optional	Number of vserver objects that matched the query, but were not modified due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver objects that matched the query and were successfully updated.
success-list		vserver-modify-iter-info[] optional	The vserver objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
EINVALIDINPUTERROR	

vserver-motd-get

[top]

Return the specified message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

Input Name	Range	Type	Description
desired-attributes		vserver-motd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.

Output Name	Range	Type	Description

attributes		vserver-motd-info	The attributes of the vserver-motd.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	

vserver-motd-get-iter

[top]

Return the specified message of the day. See the description for the non-iter API for details.

Input Name	Range	Type	Description
desired-attributes		vserver-motd-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	[1..2^32-1]	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-motd-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-motd object. All vserver-motd objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-motd-info[] optional	The list of attributes of vserver-motd objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-motd objects to return.
num-records	[0..2^32-1]	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-motd-modify

[top]

Modify the message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

Input Name	Range	Type	Description

is-cluster-message-enabled		boolean optional	Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver).
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-motd-modify-iter

[top]

Modify the message of the day. See the description of the non-iter API for more information.

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple vserver-motd objects match a given query. If set to true, the API will continue with the next matching vserver-motd even when the operation fails for the vserver-motd. If set to false, the API will return on the first failure. Default: false
is-cluster-message-enabled		boolean optional	Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver).
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-motd even when the operation on a previous matching vserver-motd fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of vserver-motd objects to be operated in this call. Default: 20
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF.
query		vserver-motd-info	If operating on a specific vserver-motd, this input element must specify all keys. If operating on vserver-motd objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver-motd objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-motd objects not operated on will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver-motd objects (just keys) that were successfully operated on. If set to false, the list of vserver-motd objects operated on will not be returned. Default: true

tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
failure-list		vserver-motd-modify-iter-info[] optional	Information about vserver-motd objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver-motd objects to be operated on.
num-failed	**[0..2^32-1]**	integer optional	The number of vserver-motd objects that matched the query, but were not operated on due some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver-motd objects that matched the query and were successfully processed.
success-list		vserver-motd-modify-iter-info[] optional	The vserver-motd objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true.

Errno	Description
EINTERNALERROR	
EVSERVERNOTFOUND	
E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED	

vserver-protect-precheck

[top]

Check source vserver for creating svmdr Relationship

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.
vserver-name		string	Vserver
vserver-uuid		uuid	Vserver UUID

Output Name	Range	Type	Description
precheck-success		boolean	was the precheck successful
svmdr-precheck-error-codes	**[0..2^32-1]**	integer[]	Validation Error Codes

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
E_VSERVERDR_PRECHECK_FAILURE_ERROR	

vserver-protect-precheck-dp-support

[top]

Check source cluster for creating svmdr Relationship of type DP

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.

Output Name	Range	Type	Description
is-enabled		boolean	was the precheck successful

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0	

vserver-protect-precheck-network

[top]

Check source vserver lif placement for creating svmdr Relationship

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.
ipspace		string	IPsapce of the destination vserver
peer-cluster-uuid		uuid	Peer cluster UUID
vserver-name		string	Vserver
vserver-uuid		uuid	Vserver UUID

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
E_VSERVERDR_NETWORK_PRECHECK_ERROR	
E_VSERVERDR_NETWORK_PRECHECK_FAILURE_ERROR	
E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0	

vserver-protect-precheck-vge-support

[top]

Check source cluster for creating svmdr Relationship of type DP

Input Name	Range	Type	Description
cluster		uuid	Specifies Uuid of the peer Cluster.

Output Name	Range	Type	Description
is-enabled		boolean	was the precheck successful

Errno	Description
EINTERNALERROR	

vserver-remove-aggregates

[top]

Remove aggregates from the Vserver

Input Name	Range	Type	Description
aggr-list		aggr-name[]	Specifies a list of aggregates to be removed from Vserver.
vserver-name		string	Specifies the name of the Vserver from which aggregates are to be removed.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-remove-protocols

[top]

remove protocols from the Vserver

Input Name	Range	Type	Description
protocols		protocol[]	Is the list of protocols to be removed from the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'.
vserver-name		string	Specifies the name of the Vserver on which the given set of protocols are not allowed.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EINVALIDINPUTERROR	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_LOCKED_FOR_BASELINE	
EVSERVER_OPERATION_NOT_PERMITTED	

vserver-rename

[top]

Rename a Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for

the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver.

Input Name	Range	Type	Description
new-name		string	New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com)
vserver-name		string	Vserver

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_RENAME_PEERED_VSERVER	
EOPNOTSUPPORTED	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_RENAME_FAILED	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE	
EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER	
EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED	
EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL	
E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED	
E_DUPLICATE_PEER_VSERVER_NAME_FILER	

vserver-rename-async

[top]

Rename a Vserver asynchronously. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver. A job will be spawned to operate on the vserver and the job id will be returned. The progress of the job can be tracked using the job APIs.

Input Name	Range	Type	Description
new-name		string	New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com)
vserver-name		string	Vserver

Output Name	Range	Type	Description
result-error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
result-error-message		string optional	Error description, if the operation caused an error.
result-jobid	**[0..2^64-1]**	integer optional	Job Id, if this operation was performed via a job.

result-status		string	The operation status. Possible values: "succeeded", "in_progress", "failed".

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EVSERVERNAMEEXISTS	
EINVALIDINPUTERROR	
E_CANNOT_RENAME_PEERED_VSERVER	
EOPNOTSUPPORTED	
EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER	
EVSERVER_CANT_END_WITH_MC	
EVSERVER_RENAME_FAILED	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE	
EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER	
EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED	
EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL	
E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED	
E_DUPLICATE_PEER_VSERVER_NAME_FILER	

vserver-san-purge

[top]

Purge SAN kernel cache for a Vserver. In Metrocluster configuration, if metrocluster switchback fails to clear the SAN kernel cache, the zapi can be issued to clear the SAN kernel cache.

Errno	Description
EINTERNALERROR	

vserver-san-purge-verify

[top]

Verify the SAN Kernel Agent on all nodes is unloaded for the specified Vserver.

Output Name	Range	Type	Description
status		boolean	SAN Kernel Agent for the Vserver is unloaded or not

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-show-aggr-get-iter

[top]

Display list of aggregates owned by Vservers.

Input Name	Range	Type	Description
desired-attributes		show-aggregates optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		show-aggregates optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver show-aggregates object. All vserver show-aggregates objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.
vserver		string optional	Vserver

Output Name	Range	Type	Description
attributes-list		show-aggregates[] optional	The list of attributes of vserver show-aggregates objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver show-aggregates objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	

vserver-start

[top]

Start a Vserver

Input Name	Range	Type	Description
force		boolean optional	In case of a MetroCluster configuration or Vserver disaster recovery, by using this parameter you can start a Vserver when it is locked (which prevents any configuration changes) or when its partner Vserver is operationally running. The default value for this parameter is false.
vserver-name		string	Specifies the name of the Vserver to be started.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	

EOPNOTSUPPORTED	
EVSERVERALREADYSTARTED	
EINVALIDINPUTERROR	
EVSERVERNOTOPERATIONAL	
E_SAN_NOT_READY	

vserver-stop

[top]

Stop a Vserver

Input Name	Range	Type	Description
vserver-name		string	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVERNOTRUNNING	
EINVALIDINPUTERROR	
EVSERVERNOTOPERATIONAL	
E_SAN_NOT_READY	

vserver-unlock

[top]

Revoke the administrative lock on the Vserver configuration. When a Vserver is unlocked, configuration changes are permitted. A failure is returned if the Vserver is not locked by the administrator or if it is locked by internal applications. If the vserver lock remains due to an error condition, it can be forcefully removed by specifying the force option.

Input Name	Range	Type	Description
force		boolean optional	Force unlock the Vserver which got locked as part of a DR event or an error condition. The default value for this parameter is false.
vserver-name		string	Specifies the name of the Vserver to be unlocked.

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EOPNOTSUPPORTED	
EVSERVER_INTERNAL_CONFIG_LOCK	
EVSERVER_ALREADY_UNLOCKED	

EVSERVER_OPERATION_SUPPORTED_ON_ADMIN_AND_DATA_TYPE_VSERVER

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

Element definition: **config-diff-info**

[top]

Difference in configuration of an object instance. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
attribute-diff-list		attribute-info[] optional	The list of attributes that differ
destination-vserver-name		string optional	Name of destination Vserver Attributes: key, non-creatable, non-modifiable
destination-vserver-uuid		uuid optional	External UUID of destination Vserver Attributes: non-creatable, non-modifiable
instance	**[0..2^32-1]**	integer optional	The count of object instance Attributes: key, non-creatable, non-modifiable
keys		key-value-pair[] optional	List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable
object		string optional	The Vserver configuration object compared - for example, volume Attributes: key, non-creatable, non-modifiable
skip-excluded-fields		boolean optional	Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable

source-vserver-name		string optional	Name of source Vserver Attributes: non-creatable, non-modifiable
source-vserver-uuid		uuid optional	External UUID of source Vserver Attributes: non-creatable, non-modifiable

Element definition: **http-proxy**

[top]

HTTP Proxy Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
ipspace		string optional	Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. Attributes: optional-for-create, modifiable
is-auth-enabled		boolean optional	Specifies whether authentication is required for the HTTP proxy. By default it is set to false. Attributes: required-for-create, modifiable
password		string optional	Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable
port	**[1..65535]**	integer optional	Specifies the port number on which the HTTP proxy service is configured for the server. Attributes: required-for-create, modifiable
server		string optional	Specifies the HTTP proxy hostname or IP address. Attributes: required-for-create, modifiable
username		string optional	Specifies the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable
vserver		vserverid optional	Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. Attributes: key, non-creatable, non-modifiable

Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **show-aggregates**

[top]

Show aggregates of the Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggregate-name		aggr-name optional	Aggregate Attributes: key, non-creatable, non-modifiable
aggregate-type		aggregatetype optional	Aggregate Type Attributes: non-creatable, non-modifiable Possible values: • "hdd" - Aggregate consists of only HDDs, • "hybrid" - Aggregate consists of both HDDs and SSDs, • "lun" - Aggregate consists of array LUNs, • "ssd" - Aggregate consists of only SSDs, • "vmdisk" - Aggregate consists of only VMDISKs, • "vmlun" - Aggregate consists of only VMLUNs, • "vmlunssd" - Aggregate consists of only VMLUNs of type SSD
available-size		size optional	Available Size Attributes: non-creatable, non-modifiable
is-nve-capable		boolean optional	Is NVE Capable Attributes: non-creatable, non-modifiable
snaplock-type		snaplocktype optional	Snaplock Type Attributes: non-creatable, non-modifiable Possible values: • "non_snaplock" - Non SnapLock, • "compliance" - SnapLock Compliance, • "enterprise" - SnapLock Enterprise
vserver-name		string optional	Vserver Attributes: key, non-creatable, non-modifiable

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

Element definition: **vserver-info**

[top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable
allowed-protocols		protocol[] optional	Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-from-learning-to-enabled		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Count Attributes: optional-for-create, modifiable

file-count			
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period Attributes: optional-for-create, modifiable
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written

			user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto. Attributes: optional-for-create, modifiable
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, modifiable
disallowed-protocols		protocol[] optional	Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
ipspace		string optional	IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable
is-config-locked-for-changes		boolean optional	Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable
is-repository-vserver		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create Attributes: optional-for-create, modifiable
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create Attributes: optional-for-create, modifiable
is-vserver-protected		boolean optional	Vserver protection Attributes: non-creatable, non-modifiable

language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable
ldap-domain		string optional	LDAP client configuration details. Attributes: non-creatable, non-modifiable
max-volumes		string optional	Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values: • "file" , • "ldap"
name-server-switch		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values:

			• "nis" , • "file" , • "ldap"
nis-domain		nis-domain optional	NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable
operational-state		vsoperstate optional	Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values: • "running" , • "stopped"
operational-state-stopped-reason		vsopstopreason optional	Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values: • "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done, • "cluster_reboot_done" - Cluster reboot is done, • "admin_state_stopped" - Admin state is stopped, • "dp_destination_not_started" - Vserver configured as destination of Vserver DR
qos-policy-group		string optional	The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. Attributes: optional-for-create, non-modifiable
			Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values:

root-volume-security-style		security-style-enum optional	'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
state		vsadminstate optional	State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values: • "running" , • "stopped" , • "starting" , • "stopping" , • "initializing" , • "deleting"
uuid		uuid optional	Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable
volume-delete-retention-hours	**[0..2^32-1]**	integer optional	The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable
vserver-aggr-info-list		vserver-aggr-info[] optional	List of aggregates assigned to the Vserver with aggregate name and available size.
vserver-name		string optional	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable
vserver-subtype		string optional	Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are: • default • dp_destination • sync_source • sync_destination If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination

			cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable
vserver-type		string optional	Type of the Vserver. Possible values: • data: the default scale-out vserver • admin: for the cluster-wide management Vserver • system: for cluster-scoped communications in an IPspace • node: identifies the physical controller. Attributes: non-creatable, non-modifiable

Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
message		string optional	The login banner message. Maximum byte length for modify: 2048. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-login-banner-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-login-banner object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
vserver-login-banner-key		vserver-login-banner-info	The keys for the vserver-login-banner object to which the operation applies.

Element definition: **vserver-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against vserver object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the modify operation caused an error.
error-message		string optional	Error description, if the modify operation caused an error.
vserver-key		vserver-info	The keys for the vserver object to which the modify operation applies.

Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-cluster-message-enabled		boolean optional	Is the display of the cluster message of the day (MOTD) enabled for this Vserver? Attributes: required-for-create, modifiable
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-motd-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-motd object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
vserver-motd-key		vserver-motd-info	The keys for the vserver-motd object to which the operation applies.

Element definition: **vserverid**

[top]

Vserver Id

[none]

Element definition: **aggr-name** [top]

Name of the aggregate

[none]

Element definition: **aggregatetype** [top]

hdd | hybrid | lun | ssd | vmdisk Possible values:

- "hdd" - Aggregate consists of only HDDs,
- "hybrid" - Aggregate consists of both HDDs and SSDs,
- "lun" - Aggregate consists of array LUNs,
- "ssd" - Aggregate consists of only SSDs,
- "vmdisk" - Aggregate consists of only VMDISKs,
- "vmlun" - Aggregate consists of only VMLUNs,
- "vmlunssd" - Aggregate consists of only VMLUNs of type SSD

[none]

Element definition: **antivirus-policy** [top]

Antivirus policy name

[none]

Element definition: **attribute-info** [top]

The name of attribute and its values at source and destination

Name	Range	Type	Description
attribute		string optional	Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable
destination-vserver-value		string optional	Value of the configuration attribute at destination Vserver Attributes: non-creatable, non-modifiable
source-vserver-value		string optional	Value of the configuration attribute at source Vserver Attributes: non-creatable, non-modifiable

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **nis-domain**

[top]

NIS Domain

[none]

Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

Element definition: **vserver-aggr-info**

[top]

Assigned aggregate name and available size.

Name	Range	Type	Description
aggr-availsize		size optional	Assigned aggregate available size. Attributes: non-creatable, non-modifiable
aggr-is-cft-precommit		boolean optional	Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable
aggr-name		aggr-name optional	Assigned aggregate name. Attributes: non-creatable, modifiable

Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

Element definition: **vserver-info**

[top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
aggr-list		aggr-name[] optional	List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable
allowed-protocols		protocol[] optional	Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
anti-ransomware-auto-switch-duration-without-new-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Duration Without New File Extension (in Days) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-from-learning-to-enabled		boolean optional	Anti-ransomware Auto-switch from Learning to Enabled Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-	**[0..2^32-**	integer	Anti-ransomware Auto-switch Minimum File Count

minimum-file-count	**1]**	optional	Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-file-extension	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum File Extension Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data		size optional	Anti-ransomware Auto-switch Minimum Incoming Data (in GB) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-incoming-data-percent	**[0..100]**	integer optional	Anti-ransomware Auto-switch Minimum Incoming Data (in percentage) Attributes: optional-for-create, modifiable
anti-ransomware-auto-switch-minimum-learning-period	**[0..2^32-1]**	integer optional	Anti-ransomware Auto-switch Minimum Learning Period Attributes: optional-for-create, modifiable
anti-ransomware-default-volume-state		vserver-anti-ransomware-state optional	The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values: • "disabled" , • "enabled" , • "dry_run"
antivirus-on-access-policy		antivirus-policy optional	{Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
caching-policy		string optional	The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are: • none - Does not cache any user data or metadata blocks. • auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks. • meta - Read caches only metadata blocks. • random_read - Read caches all metadata and randomly read user data blocks. • random_read_write - Read caches all metadata, randomly read and randomly written user data blocks. • all_read - Read caches all metadata, randomly read and sequentially read user data blocks. • all_read_random_write - Read caches all metadata,

			randomly read, sequentially read and randomly written user data. • all - Read caches all data blocks read and written. It does not do any write caching. Default caching-policy is auto. Attributes: optional-for-create, modifiable
comment		string optional	Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, modifiable
disallowed-protocols		protocol[] optional	Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values: • "nfs" - NFS protocol, • "cifs" - CIFS protocol, • "fcp" - FCP protocol, • "iscsi" - iSCSI protocol, • "ndmp" - NDMP protocol, • "http" - HTTP protocol, • "nvme" - NVMe over Fabrics protocol, • "s3" - S3 protocol
ipspace		string optional	IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable
is-config-locked-for-changes		boolean optional	Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable
is-repository-vserver		boolean optional	This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0. Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false. Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable
is-space-enforcement-logical		boolean optional	Whether to perform logical space accounting on new volume create Attributes: optional-for-create, modifiable
is-space-reporting-logical		boolean optional	Whether to report space logically on new volume create Attributes: optional-for-create, modifiable
is-vserver-		boolean	Vserver protection Attributes: non-creatable, non-modifiable

protected		optional	
language		language-code optional	Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable
ldap-domain		string optional	LDAP client configuration details. Attributes: non-creatable, non-modifiable
max-volumes		string optional	Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable
name-mapping-switch		nmswitch[] optional	Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values: • "file" , • "ldap"
name-server-		nsswitch[] optional	Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to

switch			fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values: • "nis" , • "file" , • "ldap"
nis-domain		nis-domain optional	NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable
operational-state		vsoperstate optional	Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values: • "running" , • "stopped"
operational-state-stopped-reason		vsopstopreason optional	Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values: • "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done, • "cluster_reboot_done" - Cluster reboot is done, • "admin_state_stopped" - Admin state is stopped, • "dp_destination_not_started" - Vserver configured as destination of Vserver DR
qos-policy-group		string optional	The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable
quota-policy		string optional	Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable
root-volume		volume-name optional	Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable
root-volume-aggregate		aggr-name optional	The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. Attributes: optional-for-create, non-modifiable
			Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-

root-volume-security-style		security-style-enum optional	create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values: • "unix" - NFS, • "ntfs" - CIFS, • "mixed" - Mixed, • "unified" - Unified
snapshot-policy		snapshot-policy optional	Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable
state		vsadminstate optional	State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values: • "running" , • "stopped" , • "starting" , • "stopping" , • "initializing" , • "deleting"
uuid		uuid optional	Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable
volume-delete-retention-hours	**[0..2^32-1]**	integer optional	The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable
vserver-aggr-info-list		vserver-aggr-info[] optional	List of aggregates assigned to the Vserver with aggregate name and available size.
vserver-name		string optional	Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable
vserver-		string	Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are: • default • dp_destination • sync_source • sync_destination

subtype		optional	If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable
vserver-type		string optional	Type of the Vserver. Possible values: • data: the default scale-out vserver • admin: for the cluster-wide management Vserver • system: for cluster-scoped communications in an IPspace • node: identifies the physical controller. Attributes: non-creatable, non-modifiable

Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
message		string optional	The login banner message. Maximum byte length for modify: 2048. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
is-cluster-		boolean	Is the display of the cluster message of the day (MOTD) enabled for this

message-enabled		optional	Vserver? Attributes: required-for-create, modifiable
message		string optional	The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable
vserver		string optional	Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable

Element definition: **vsoperstate**

[top]

running|stopped Possible values:

- "running" ,
- "stopped"

[none]

Element definition: **vsopstopreason**

[top]

sync destination and switchover is not done|cluster reboot is done|admin state stopped| dp destination not started Possible values:

- "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,
- "cluster_reboot_done" - Cluster reboot is done,
- "admin_state_stopped" - Admin state is stopped,
- "dp_destination_not_started" - Vserver configured as destination of Vserver DR

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

Element definition: **nis-domain**

[top]

NIS Domain

[none]

Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

Element definition: **snapshot-policy** [top]

Snapshot Policy

[none]

Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name** [top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **vsadminstate** [top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

Element definition: **vserver-aggr-info**

[top]

Assigned aggregate name and available size.

Name	Range	Type	Description
aggr-availsize		size optional	Assigned aggregate available size. Attributes: non-creatable, non-modifiable
aggr-is-cft-precommit		boolean optional	Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable
aggr-name		aggr-name optional	Assigned aggregate name. Attributes: non-creatable, modifiable

Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

APIs in Category: **vserver-peer**

vserver-peer-accept
vserver-peer-create
vserver-peer-delete
vserver-peer-get
vserver-peer-get-iter
vserver-peer-modify
vserver-peer-modify-local-name
vserver-peer-permission-create
vserver-peer-permission-delete
vserver-peer-permission-get
vserver-peer-permission-get-iter
vserver-peer-permission-modify
vserver-peer-reject
vserver-peer-repair-peer-name
vserver-peer-resume
vserver-peer-suspend

Vserver peering provides a mechanism to setup relationships between two Vservers. Relationship thus created can be used by cluster administrator to setup application (SnapMirror) relationships or delegate these to Vserver administrator. This set of APIs allow to create and manage Vserver peer relationships.

vserver-peer-accept

[top]

Accept a pending Vserver peer relationship

Input Name	Range	Type	Description
local-name		string optional	Specifies local name of the peer Vserver in the relationship.
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCALVSERVER_PEERING_NOT_EXISTS	
E_PEERVSERVER_PEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_INVALID_OPERATION_INTRA_CLUSTER	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	

E_JOB_EXISTS	
E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS	
E_VSERVERPEER_UNIQUE_ACCEPT_ALTERNATE_NAME_OPTION	
E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED	
E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS	

vserver-peer-create

[top]

Create a new Vserver peer relationship between two existing Vservers

Input Name	Range	Type	Description
applications		vserver-peer-application[]	Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'.
local-name		string optional	Specifies local name of the peer Vserver in the relationship.
peer-cluster		string optional	Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster.
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_EXISTS	
E_PEER_VSERVERPEERING_EXISTS	
EINVALIDINPUTERROR	
ENOTCLUSTERED	
E_PEERVSERVER_NAME_EXISTS	
EINTERNALERROR	
E_PEERVSERVER_SAME_LOCALVSERVER	
E_ECANNOT_PEER_WITH_SAME_VSERVER	
E_PEER_CLUSTER_NOT_VALID	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_PEER_VSERVER_NOT_RUNNING_OR_STOPPED	
E_DUPLICATE_PEER_VSERVER_NAME_VSERVER	
E_DUPLICATE_PEER_VSERVER_NAME_FILER	
E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_VSERVER	
E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_FILER	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	
E_CANT_PEER_FLEXVOL_VSERVER_WITH_INFINITEVOL_VSERVER	
E_JOB_EXISTS	
EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED	
EVSERVERPEER_CANNOT_SPECIFY_SYNC_DEST_VSERVER	
E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED	
E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY	
E_VSERVERPEER_UNIQUE_ALTERNATE_NAME_OPTION	

E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS	
E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED	
E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS	
E_VSERVERPEER_UNIQUE_LOCAL_NAME_INTRA_INVALID	
E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH	
E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER	
E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER	

vserver-peer-delete

[top]

Delete a Vserver peer relationship

Input Name	Range	Type	Description
force		boolean optional	Force Delete
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEERVSERVER_PEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEERVSERVERPEERINGS_TATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_PEER_RELATIONSHIP_IN_USE	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION	
E_JOB_EXISTS	
EVSERVERPEER_RELATIONSHIP_CREATION_IN_PROGRESS	
E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE	

vserver-peer-get

[top]

Display information about Vserver peer relationships. Displays the local Vserver, peer Vserver, applications, remote Vserver name and the state of the peering relationship.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-vserver		string	Specifies name of the peer Vserver in the relationship

Output Name	Range	Type	Description
attributes		vserver-peer-info	The attributes of the vserver-peer.

Errno	Description
EVSERVERNOTFOUND	
EPEERVSERVERNOTFOUND	
EINTERNALERROR	

vserver-peer-get-iter

[top]

Display information about Vserver peer relationships. If the API is issued to the Cluster LIF, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-peer-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer object. All vserver-peer objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-peer-info[] optional	The list of attributes of vserver-peer objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-peer objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
EINTERNALERROR	

vserver-peer-modify

[top]

Modify a Vserver peer relationship

Input Name	Range	Type	Description
applications		vserver-peer-application[]	Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'.
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_VSERVERPEER_MODIFY_OP_NOT_ALLOWED	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	
E_JOB_EXISTS	
EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED	
E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED	
E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY	
E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH	
E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER	
E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER	
E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE	

vserver-peer-modify-local-name

[top]

Modify the local name for a peer Vserver.

Input Name	Range	Type	Description
new-name		string	Remote Peer Vserver Local Name
peer-cluster		string	Peer Cluster
peer-vserver		string	Remote Peer Vserver

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVER_CANT_END_WITH_MC	
EINVALIDINPUTERROR	
E_INVALID_OPERATION_INTRA_CLUSTER	

E_VSERVERPEER_UNIQUE_CANT_USE_SAME_NAME	
E_VSERVERPEER_UNIQUE_CANT_RENAME_NAME_CONFLICT	
E_VSERVERPEER_UNIQUE_FAILED_TO_RENAME_PEERVSERVER	

vserver-peer-permission-create

[top]

Create a new Vserver peer permission. Allow cluster admin to configure list of permitted clusters/Vservers/applications for intercluster Vserver peer relationship creation. Once configured no explicit Vserver peer accept required for any incoming Vserver peer request from remote cluster

Input Name	Range	Type	Description
applications		vserver-peer-permission-application[]	Peering Applications Possible values: • "snapmirror" - SnapMirror, • "flexcache" - FlexCache
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS	
E_VSERVERPEER_IPSPACE_MISMATCH	
E_VSERVERPEER_VPP_ECV_BELOW_9_2_0	

vserver-peer-permission-delete

[top]

Delete a Vserver peer permission

Input Name	Range	Type	Description
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Errno	Description
E_VSERVERPEER_VPP_VP_PERMISSION_NOT_EXISTS	
E_VSERVERPEER_VPP_VSERVER_NOT_EXISTS	

vserver-peer-permission-get

[top]

Gets a Vserver peer permission

Input Name	Range	Type	Description
desired-attributes		vserver-peer-permission-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Output Name	Range	Type	Description
attributes		vserver-peer-permission-info	The attributes of the vserver-peer-permission.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-peer-permission-get-iter

[top]

Gets list of Vserver peer permission

Input Name	Range	Type	Description
desired-attributes		vserver-peer-permission-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-peer-permission-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-permission object. All vserver-peer-permission objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-peer-permission-info[]	The list of attributes of vserver-peer-permission objects.

		optional	
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-peer-permission objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-peer-permission-modify

[top]

Modify the existing Vserver peer permission

Input Name	Range	Type	Description
applications		vserver-peer-permission-application[]	Peering Applications Possible values: • "snapmirror" - SnapMirror, • "flexcache" - FlexCache
peer-cluster		string	Specifies name of the peer Cluster.
vserver		string	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers.

Errno	Description
EINTERNALERROR	
ENOTCLUSTERED	
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS	
E_VSERVERPEER_VPP_ECV_BELOW_9_5_0	

vserver-peer-reject

[top]

Reject a Vserver peer relationship

Input Name	Range	Type	Description
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	

E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_INVALID_OPERATION_INTRA_CLUSTER	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY	
E_JOB_EXISTS	

vserver-peer-repair-peer-name

[top]

Fix Peer Vserver name in the remote Vserver peer tables

Input Name	Range	Type	Description
vserver-name		string	vserver

Errno	Description
EVSERVERNOTFOUND	
EINTERNALERROR	
EINVALIDINPUTERROR	
EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME	
EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED	

vserver-peer-resume

[top]

Resume a Vserver peer relationship

Input Name	Range	Type	Description
force		boolean optional	Force Resume
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION	
E_JOB_EXISTS	

vserver-peer-suspend

[top]

Suspend a Vserver peer relationship

Input Name	Range	Type	Description
force		boolean optional	Force Suspend
peer-vserver		string	Specifies name of the peer Vserver in the relationship
vserver		string	Specifies name of the local Vserver in the relationship

Errno	Description
EVSERVERNOTFOUND	
E_PEERVSERVER_NOT_FOUND	
E_LOCAL_VSERVERPEERING_NOT_EXISTS	
E_PEER_VSERVERPEERING_NOT_EXISTS	
E_INVALID_VSERVERPEERING_STATE	
E_INVALID_PEER_VSERVERPEERING_STATE	
ENOTCLUSTERED	
EINTERNALERROR	
E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION	
E_JOB_EXISTS	

Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

Element definition: **vserver-peer-info**

[top]

Contains information about the Vserver peer relationship(s). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
applications		vserver-peer-application[] optional	Applications which can make use of the peering relationship. Attributes: non-creatable, non-modifiable Possible values: • "snapmirror" - SnapMirror, • "file_copy" - FileCopy, • "lun_copy" - LunCopy, • "flexcache" - FlexCache
peer-cluster		string optional	Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster. This value is not shown and cannot be set in desired-attributes when the API is issued on Vserver LIF. Attributes: non-creatable, non-modifiable
peer-state		vserver-peer-state optional	State of the Vserver peer relationship Attributes: non-creatable, non-modifiable Possible values: • "peered" - Vserver peer relationship is established and the applications can use peer relationship, • "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request, • "initializing" - Communicating to the peer cluster for initializing the peer relationship, • "initiated" - Relationship initiated in local cluster, • "rejected" - Relationship initiated and peer cluster rejected the same, • "suspended" - Relationship suspended, should not initiate any data transfers , • "deleted" - Relationship got deleted on peer cluster
peer-vserver		string optional	Specifies name of the peer Vserver in the relationship Attributes: key, non-creatable, non-modifiable
peer-vserver-uuid		uuid optional	Specifies uuid of the peer Vserver in the relationship. Attributes: non-creatable, non-modifiable
remote-vserver-name		string optional	Specifies remote name of the peer Vserver in the relationship Attributes: non-creatable, non-modifiable
vserver		string optional	Specifies name of the local Vserver in the relationship Attributes: key, non-creatable, non-modifiable
vserver-uuid		uuid optional	Specifies uuid of the local Vserver in the relationship. Attributes: non-creatable, non-modifiable

Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

[top]

Element definition: **vserver-peer-permission-info**

Information about the Vserver peer permission. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
applications		vserver-peer-permission-application[] optional	Applications which can make use of the intercluster Vserver peer relationship. Attributes: non-creatable, non-modifiable Possible values: • "snapmirror" - SnapMirror, • "flexcache" - FlexCache
peer-cluster		string optional	Specifies name of the peer Cluster. Attributes: key, non-creatable, non-modifiable
vserver		string optional	Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. Attributes: key, non-creatable, non-modifiable

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

Element definition: **vserver-peer-state**

[top]

peered|pending|initializing|initiated|rejected|suspended|deleted Possible values:

- "peered" - Vserver peer relationship is established and the applications can use peer relationship,
- "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request,
- "initializing" - Communicating to the peer cluster for initializing the peer relationship,
- "initiated" - Relationship initiated in local cluster,
- "rejected" - Relationship initiated and peer cluster rejected the same,
- "suspended" - Relationship suspended, should not initiate any data transfers ,
- "deleted" - Relationship got deleted on peer cluster

[none]

APIs in Category: **vserver-peer-transition**

vserver-peer-transition-create
vserver-peer-transition-destroy
vserver-peer-transition-destroy-iter
vserver-peer-transition-get
vserver-peer-transition-get-iter
vserver-peer-transition-modify

transition peer provides mechanism to setup relationships between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver. This relationship can be used by Cluster Admin to setup Snapmirror transition relationships or delegating these to Vserver Admin. These set of ZAPIs allow either to create or manage transition peer relationships.

vserver-peer-transition-create

[top]

Create a new transition peer relationship between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver

Input Name	Range	Type	Description
local-lifs		lif-name[] optional	List of Local LIFs
local-vserver		vserver-name	Local Vserver name
multi-path-address		string optional	Additional address for source 7-Mode system
return-record		boolean optional	If set to true, returns the vserver-peer-transition on successful creation. Default: false
src-filer-name		string	Source 7-Mode system

Output Name	Range	Type	Description
result		vserver-peer-transition-info optional	The vserver-peer-transition created (keys or the entire object if requested)

Errno	Description
EVSERVERNOTFOUND	
EVSERVER_OP_NOT_ALLOWED	
E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED	
E_DUPLICATE_PEER_VSERVER_NAME_VSERVER	
E_PEERVSERVER_SAME_LOCALVSERVER	
E_LIF_NOT_FOUND	
E_LIF_NOT_OWNED_BY_VSERVER	

vserver-peer-transition-destroy

[top]

Deletes a transition peer relationship

Input Name	Range	Type	Description
local-vserver		vserver-name	Local Vserver name
src-filer-name		string	Source 7-Mode system

Errno	Description
E_PEER_RELATIONSHIP_IN_USE	

vserver-peer-transition-destroy-iter

[top]

Deletes multiple transition peer relationship

Input Name	Range	Type	Description
continue-on-failure		boolean optional	This input element is useful when multiple vserver-peer-transition objects match a given query. If set to true, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous vserver-peer-transition fails. If set to false, the API will return on the first failure. Default: false
max-failure-count	**[1..2^32-1]**	integer optional	When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous matching vserver-peer-transition fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1
max-records	**[1..2^32-1]**	integer optional	The maximum number of vserver-peer-transition objects to delete in this call. Default: 20
query		vserver-peer-transition-info	If deleting a specific vserver-peer-transition, this input element must specify all keys. If deleting multiple vserver-peer-transition objects based on query, this input element must specify a query.
return-failure-list		boolean optional	If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were not deleted due to some error. If set to false, the list of vserver-peer-transition objects not deleted will not be returned. Default: true
return-success-list		boolean optional	If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were successfully deleted. If set to false, the list of vserver-peer-transition objects deleted will not be returned. Default: true
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call.

Output Name	Range	Type	Description
		vserver-	

failure-list		peer-transition-destroy-iter-info[] optional	Information about vserver-peer-transition objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true.
next-tag		string optional	Tag for the next call. Not present when there are no more matching vserver-peer-transition objects to be deleted.
num-failed	**[0..2^32-1]**	integer optional	Number of vserver-peer-transition objects that matched the query, but were not deleted due to some error.
num-succeeded	**[0..2^32-1]**	integer optional	The number of vserver-peer-transition objects that matched the query and were successfully deleted.
success-list		vserver-peer-transition-destroy-iter-info[] optional	The vserver-peer-transition objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true

Errno	Description
E_PEER_RELATIONSHIP_IN_USE	

vserver-peer-transition-get

[top]

Gets a transition peer relationship.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-transition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
local-vserver		vserver-name	Local Vserver name
src-filer-name		string	Source 7-Mode system

Output Name	Range	Type	Description
attributes		vserver-peer-transition-info	The attributes of the vserver-peer-transition.

Errno	Description
EOBJECTNOTFOUND	
EINTERNALERROR	

vserver-peer-transition-get-iter

[top]

Gets list of transition peer relationship.

Input Name	Range	Type	Description
desired-attributes		vserver-peer-transition-info optional	Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned.
max-records	**[1..2^32-1]**	integer optional	The maximum number of records to return in this call. Default: 20
query		vserver-peer-transition-info optional	A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-transition object. All vserver-peer-transition objects matching this query up to 'max-records' will be returned.
tag		string optional	Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call.

Output Name	Range	Type	Description
attributes-list		vserver-peer-transition-info[] optional	The list of attributes of vserver-peer-transition objects.
next-tag		string optional	Tag for the next call. Not present when there are no more vserver-peer-transition objects to return.
num-records	**[0..2^32-1]**	integer	The number of records returned in this call.

Errno	Description
EINTERNALERROR	

vserver-peer-transition-modify

[top]

Modifies a transition peer relationship

Input Name	Range	Type	Description
local-lifs		lif-name[] optional	List of Local LIFs
local-vserver		vserver-name	Local Vserver name
multi-path-address		string optional	Additional address for source 7-Mode system
src-filer-name		string	Source 7-Mode system

Errno	Description
E_LIF_NOT_FOUND	
E_LIF_NOT_OWNED_BY_VSERVER	

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

Element definition: **vserver-peer-transition-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against vserver-peer-transition object.

Name	Range	Type	Description
error-code	**[0..2^32-1]**	integer optional	Error code, if the deletion operation caused an error.
error-message		string optional	Error description, if the operation caused an error.
vserver-peer-transition-key		vserver-peer-transition-info	The keys for the vserver-peer-transition object to which the deletion applies.

Element definition: **vserver-peer-transition-info**

[top]

Information about the transition peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

Name	Range	Type	Description
local-lifs		lif-name[] optional	List of Local LIFs Attributes: optional-for-create, modifiable
local-vserver		vserver-name optional	Local Vserver name Attributes: key, required-for-create, non-modifiable
multi-path-		string	Additional address for source 7-Mode system Attributes: optional-

address		optional	for-create, modifiable
src-filer-name		string optional	Source 7-Mode system Attributes: key, required-for-create, non-modifiable

Element definition: **lif-name**

[top]

Logical Interface Id

[none]

Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

APIs in Category: **wafl**

wafl-get-sync-status
wafl-sync

wafl-get-sync-status

[top]

Returns the status of the previously issued asynchronous Consistency Point operations.

Input Name	Range	Type	Description
sync-handle		wafl-sync-handle	Handle representing a previously issued wafl-sync operation.

Output Name	Range	Type	Description
status		string optional	Status information about the previous CP request on volume. Possible values: • "failed", • "in_progress", • "succeeded".

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

wafl-sync

[top]

Forces a WAFL consistency point (CP) in order to reduce the time for succeeding fence and snapshot related operations. In Data ONTAP 7-Mode this call is synchronous and will not return until the CP has completed. In Data ONTAP Cluster-Mode this API is asynchronous and will return immediately as soon as the CP is scheduled. The wafl-get-sync-status API can be used to check status of the previously scheduled CP. Two uses of this API are

- to predict how fast a successive consistency group based operation will finish,
- to improve performance of succeeding consistency group primitives.

Input Name	Range	Type	Description
volume-uuids		uuid[] optional	A list of volume UUIDs in this filer to take a CP on.
volumes		volume-name[] optional	A list of volume names to take a CP on. In Data ONTAP 7-Mode, the CP operation will be performed on all the volumes on the controller if no volumes are specified. In Data ONTAP Cluster-Mode, "volumes" is a required input and all specified volumes must belong to the same Vserver. If an error is encountered when processing the sync request

			for a volume, the operation is aborted and sync operation will not be performed on the rest of the volumes specified.

Output Name	Range	Type	Description
handles		wafl-sync-handle[] optional	List of handles to be used to query the sync status using 'wafl-get-sync-status' ZAPI.

Errno	Description
EINTERNALERROR	
EINVALIDINPUTERROR	

Vfiler-enabled
Yes

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

Element definition: **wafl-sync-handle**

[top]

Handle representing a specific wafl-sync operation on a volume.

Name	Range	Type	Description
handle	**[0..2^32-1]**	integer	Opaque handle that represents a specific wafl-sync operation.
volume		volume-name optional	Volume name on which wafl-sync operation being performed.
volume-uuid		uuid optional	Volume UUID on which wafl-sync operation being performed.

Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

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You can use the following support channels to obtain more information about and help with the NetApp Manageability SDK:

The NetApp Manageability SDK Discussion Forum:

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- This forum is the preferred way to obtain support.
- Use this forum for non-confidential queries and issues regarding the SDK.

The NetApp Manageability SDK mailing list:

dl-sdk-answers@netapp.com

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- NetApp Manageability SDK customers and end customers of partner products can contact CSS to log issues related to the SDK.
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